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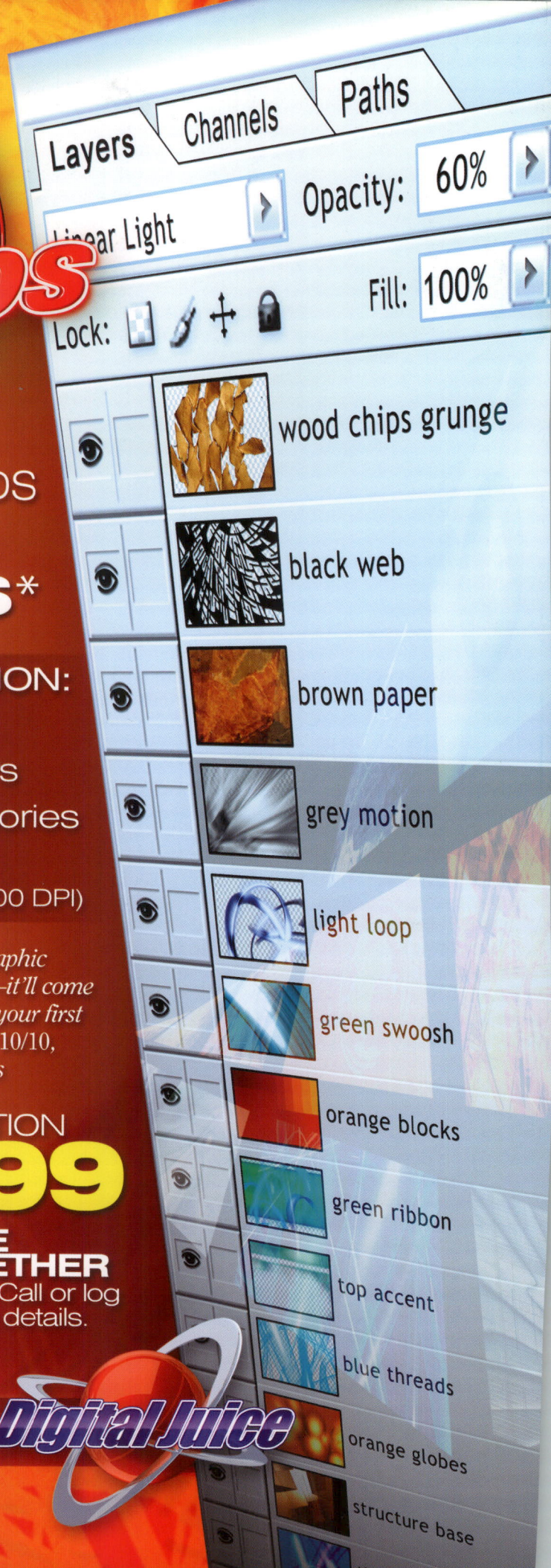

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Welcome

Photoshop is used in every genre of art and design – photographers, fine artists, fashion designers, motion graphics artists and, well, you name a discipline and it'll involve this tool. And we've devoted this entire issue to making more of the application. The phrase 'cutting-edge' rings true when you look at our amazing array of tutorials: there's a masterclass by world-renowned (and Saatchi collection member) fine-art photographer Paul M Smith. Discover his techniques with our exclusive tutorial beginning on page 24.

If you've ever wondered how a Vivienne Westwood print comes to life, turn to page 18 for another big exclusive. Our friends at the world-famous fashion house have crafted a *Photoshop* tutorial for you.

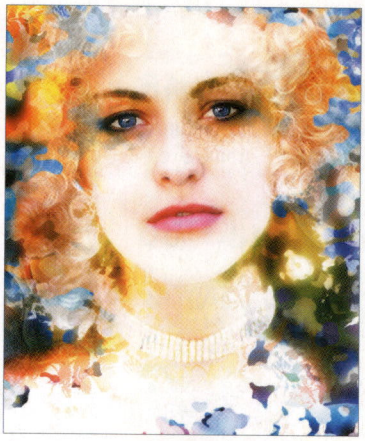
Swedish digital artist Per Gustafson has joined in as well, telling you exactly how he put together his striking Modern City series of images. Turn to page 80. Colin Smith of Photoshop CAFÉ fame shows you exactly how to build a photorealistic object from scratch in *Photoshop* (page 66) and Thomas Schostok of {ths} design uncovers blending modes to create a striking retro illustration (page 54).

In addition, we bring you tips and tutorials on using Channels, Layers, resolution and Levels and Curves. If you're into *Photoshop*, you can't afford to miss it.

Rob Carney, Associate Editor

Tell us what topics you'd like to see covered in-depth in *Computer Arts Projects*. Contact us on: **rob.carney@futurenet.co.uk**

Contributing artists



COVER ILLUSTRATION
Allan Finamore

Allan Finamore is an artist whose work you've probably seen a thousand times, gracing the pages of fashion magazines such as *Vogue*, *Harpers* and *Marie Claire*. Responsible for the image-editing on the latest Dior campaigns and the 2004 Pirelli calendar, Allan succeeded in creating a beautiful, dream-like image for our cover. Photography was by Paul & Paul.

[w] www.afinamore.com

[w] www.paulandpaul.co.uk

Paul M Smith

Probably most famous for his artwork on the 2002 Robbie Williams album *Sing When You're Winning*, Paul M Smith is a fine-art photographer whose work holds a place in the distinguished Saatchi collection. This month, for the first time, he's revealed his image-editing secrets. Turn to page 24 for the tutorial.

[w] www.paulmsmith.co.uk

Colin Smith

The second Smith on our contributor list this month is Colin, the owner of the world's most successful *Photoshop* website, www.photoshopCAFE.com. Using his remarkable *Photoshop* skills, Colin creates photorealistic objects from scratch using shapes, bevels and gradients. And on page 66, he shares his techniques with you.

[w] www.photoshopCAFE.com

We're always on the lookout for new artists as well as established creatives – so if you're interested in contributing to the magazine, please send some examples of your work to **[e] richard.llewellyn@futurenet.co.uk**

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Subscriptions – page 52
Future Publishing Ltd, FREEPOST, BS4900, Somerton, Somerset, TA11 6BR
[t] Customer hotline: 0870 444 8455
[f] 01458 271 146
[e] ca.subs@futurenet.co.uk

Editorial [t] 01225 442 244
Rob Carney associate editor
[e] robert.carney@futurenet.co.uk
Ashley Young production editor
[e] caproduction@futurenet.co.uk
Sarah Robson acting art editor
[e] capart@futurenet.co.uk
Johann Chan designer
[e] johann.chan@futurenet.co.uk
Matt Gallimore senior CD editor
[e] matt.gallimore@futurenet.co.uk
Simon Holland CD editor
[e] simon.holland@futurenet.co.uk
Sarah Williams software copyright co-ordinator

CD problems [t] 01225 822 743
Technical support: ca.support@futurenet.co.uk

Contributors
Cover illustration: Allan Finamore and Paul & Paul Photography
Contributors: atomicattack, Peter Bargh, Frank Bartucca, Rob Chiu, Joe de Campos, Alistair Dabbs, Per Gustafson, Mark Penfold, Paul Price, Thomas Schostok, Colin Smith, Paul Smith, Jerome Turner.

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Contact
Computer Arts Projects, Future Publishing, 30 Monmouth Street, Bath BA1 2BW
[t] 01225 442 244 [f] 01225 732 295
[i] ISDN: 01225 789 293
[w] www.computerarts.co.uk

Advertising [t] 01225 442 244
Lee Haines key account manager
[e] lee.haines@futurenet.co.uk
George Lucas senior sales executive
[e] george.lucas@futurenet.co.uk
Melissa Watkins classified enquiries
[e] melissa.watkins@futurenet.co.uk
Rosa Smith advertising manager
[e] rosa.smith@futurenet.co.uk

Production
Emily Mounter production coordinator
[e] emily.mounter@futurenet.co.uk

International licensing
Simon Wear international director
[e] simon.wear@futurenet.co.uk
[t] +44 (0) 1225 442 244

Management
Kelley Corten publisher
Dom Beaven publishing director
Gillian Carson senior editor
Roddy Llewellyn senior art editor

Distributed by
Marketforce (UK) Ltd
5th Floor, Low Rise Building, Kings Reach Tower, Stamford Street, London, SE1 9LS
[t] +44 (0) 20 7633 3300

Jason Comber trade marketing manager
[e] jason.comber@futurenet.co.uk

The Future Network
Roger Parry non-executive chairman
Greg Ingham chief executive
John Bowman group finance director
Robert Price managing director

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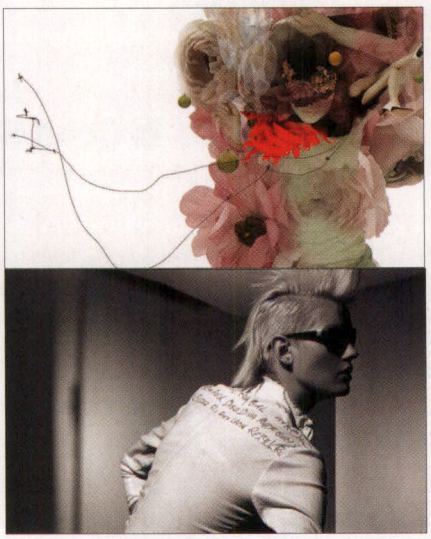

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Calvin Ho is the man behind Hong Kong-based design firm atomicattack. He talks to us about his truly stunning montage work

Martin Evening 88
One of the UK's most famous photographers, Martin Evening reveals his methods and working practices. It's all about the image...

TUTORIALS

CUTTING-EDGE PHOTOSHOP

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Photoshop in fashion 18
Vivienne Westwood's graphic design team reveals how it uses *Photoshop* to translate the seminal designer's ideas into catwalk creations

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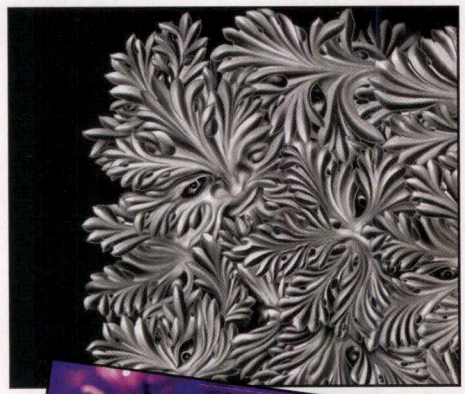
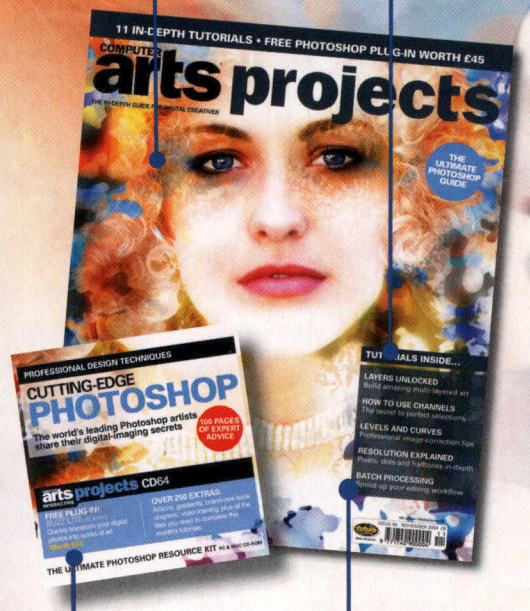


18 Cutting-edge Photoshop
Follow our expert tutorials to create incredible digital artwork

36 Essential techniques
Master layers, Channels, Levels and Curves, Batch Processing and more with this expert 100-page guide



96 ON YOUR CD

Photoshop plug-in
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Essential resources
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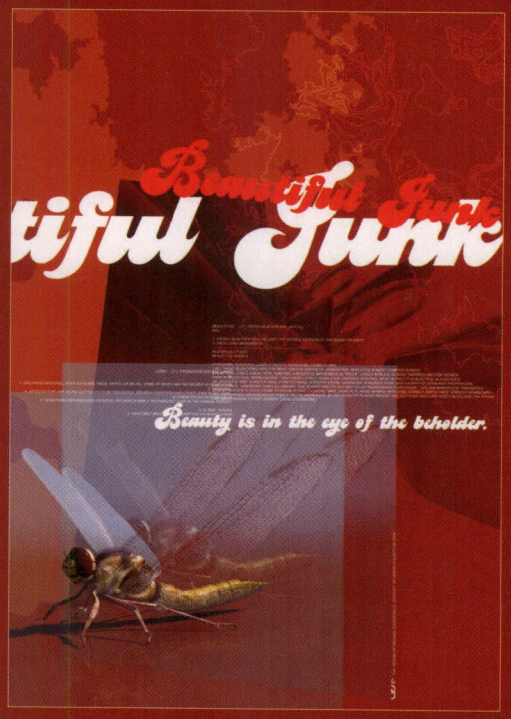
Never print a lo-res image again – thanks to our expert guide

Main image: A promotional poster created for Urban Collective. [w] www.urbancollective.com.

Artist	Michael Dawidowicz
Country	Australia
Website	www.mseventy6.com



Michael Dawidowicz created this poster for an exhibition entitled Beautiful Junk, which took place in Malaysia.

This poster was designed to show the beauty of the scorpion within visual and graphic surroundings.

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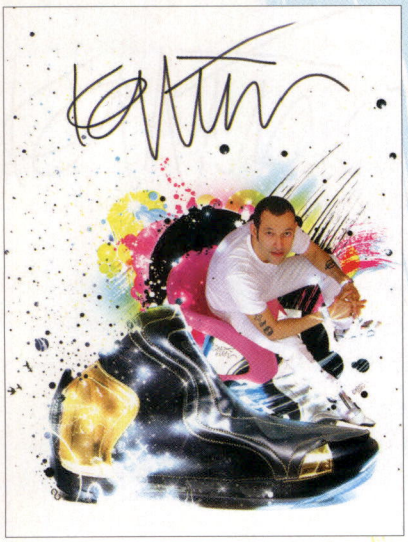
PHOTOSHOP SHOWCASE

We bring you the latest work from six of the current crop of top *Photoshop* artists. See the work of plenty more cutting-edge creatives throughout the issue...

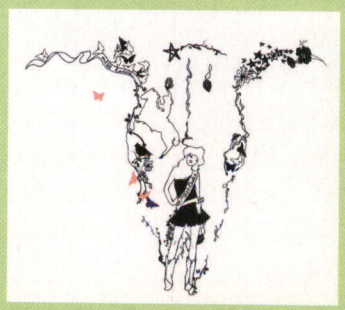


Chuck Anderson created this image to accompany a Karim Rashid interview in *Clear* magazine. Chuck was given photos and a pair of shoes belonging to the designer and had the freedom to create his own composition.

Artist	Chuck Anderson
Country	America
Website	www.nopattern.com

Main image: A design for TheKDU at [w] www.thekdu.com, a creative collective due to go live later this year. The line-up of designers includes Chuck Anderson, David Gensler, Jason Bass of JB Shoes, *The Royal* magazine, Karim Rashid, Kareem Black and Eneone.

Artist	Kat Heyes
Country	England
Website	www.advocate-art.com



Kat Heyes tells us she strives to make images that are beautiful and timeless, combining fluid drawn lines with a mixture of hand-painted and digitally worked areas. Her clients include *Vogue*, *Marie Claire*, Miss Selfridge, Kurious PR, Radioslave and *The Observer* magazine and *Erotic Review*.

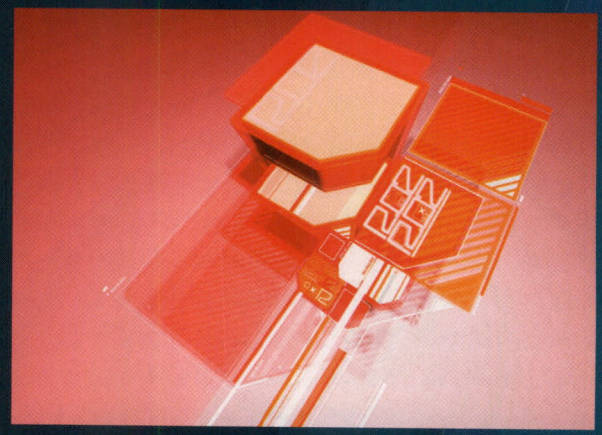
Website design for The Horus Project at [w] www.thehorusproject.com.

Concept cover idea for *Wired* magazine.

Web artists	Marco Di Carlo & Eric Vardon
Country	Canada
Website	www.velocitystudio.com

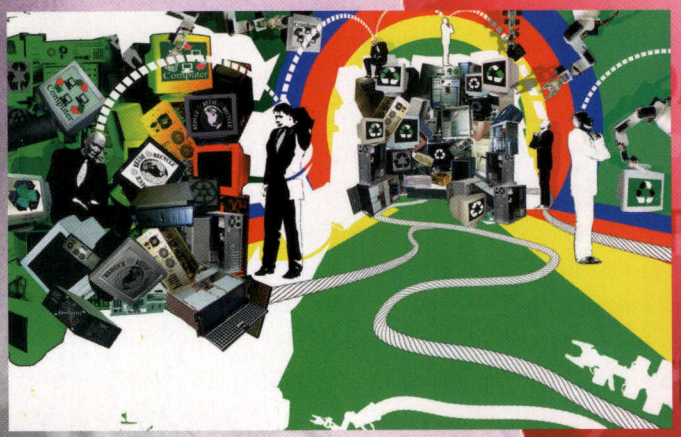
Velocity & Associates is an established Canadian design firm that specialises in creating unique imagery and motion graphics for the web, print and other new media-based projects. Velocity prides itself on delivering creative solutions that utilise 3D imaging, motion, typography, art direction, graphic and web design, and custom photography.

Artist	Ben Miners
Country	England
Website	http://graphikboutique.com



Above: Personal *Photoshop* work by Ben Miners.
Main image: Ben was commissioned by Paul Tysall, Art Editor of *Computer Music*, to create this image for a recent edition of the magazine.

Artist	Vincent Fraser
Country	England
Website	www.morphic-art.com



Vincent Fraser at Morphic Art uses *Photoshop* to vary the opacities and apply Strokes to figures. He also uses multiple Colour Balance and Hue/Saturation adjustment layers to give his images a more vibrant look.

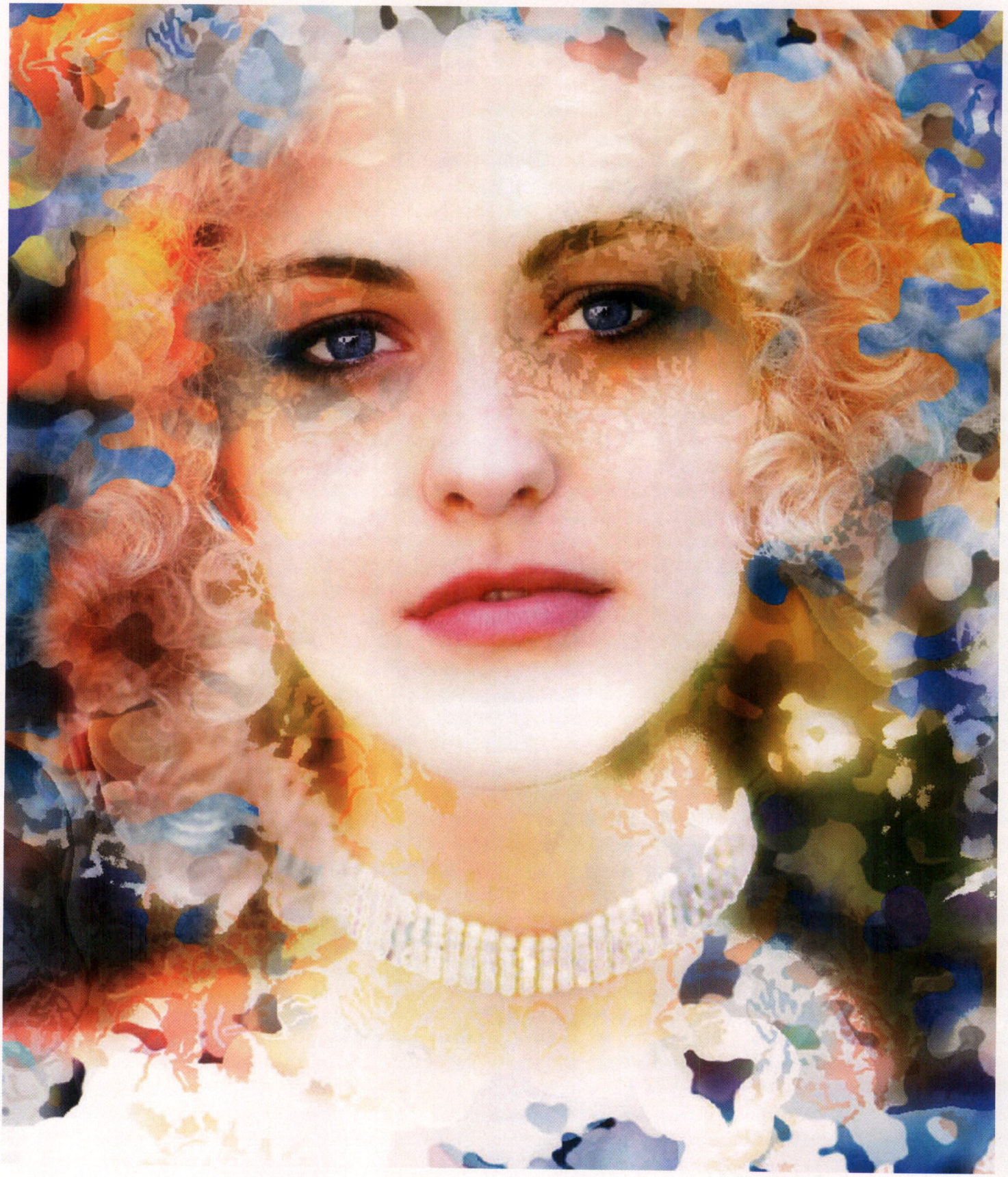


Illustration by Allan Finamore [w] www.afinamore.com

Photoshop for professionals

We all know that graphic designers love *Photoshop*, but it's also the favourite of many other creative professionals...

Ask any graphic designer to list their three most commonly used computer applications and most will name *Photoshop*. The same goes for illustrators and web designers. No one can get through an education and career in design without coming across everyone's favourite pixel-pusher – it's powerful enough to knock bitmap images around exactly as you need, and at a speed that matches. But what about other creative professions?

Sometimes, on long nights, up against a deadline, an involved *Photoshop* project can be lonely work – just you, your computer, and several thousand pixels. But if you take a moment to look around, everyone is using *Photoshop*. Right now, on the other side of the world, a motion graphics designer is creating imagery for a TV ident. An advertising photographer is tweaking the colours from his latest shoot. A graphic designer at a fashion house is drawing a new fabric from pencil sketches. They all take something different from the software and apply it to their work in a variety of ways, but you can always guarantee they'll turn to *Photoshop* on a daily basis.

Why it's called Photoshop

Let's start with something obvious. Photographers use *Photoshop*. But as the newer versions of the software enable professional photographers to have more freedom and breadth of manipulation at a consumer level, their role in the grand scheme of things changes. "I shoot commercial advertising photography for both ad agencies and corporations," explains US photographer Dana Hursey ([w] www.hursey.com). "I work mostly with art directors or marketing directors. Sometimes the client just wants 'the shot' and at other times they rely on me or my staff to composite or retouch imagery. Others come to me with only a vague idea of what they're trying to accomplish and rely on me to really come up with a creative interpretation of that."

As Dana's role as a photographer changes, so does her workspace. "I have never kept a darkroom as I fear I'd never leave it. I love printing but haven't done it in over a decade as it just eats up too much of my time." And yet, as a photographer, Dana, like many others, uses *Photoshop* to not only discover new techniques, but also simulate wet darkroom printing. "I want to say that I don't know how I got along without *Photoshop*. But in reality I used to do the jobs in much the same way I do them now. Only now I can do them faster, less expensively, and frankly a lot 'cleaner'."

Fashion photographer Franco Garzarolli ([w] www.garzarolli.com) was introduced to *Photoshop* at an early stage of the software's

> "I used to do the jobs in the same way I do them now. Only now I can do them faster, less expensively, and frankly a lot cleaner" **DANA HURSEY, PHOTOGRAPHER**

As a fashion photographer, Franco Garzarolli finds *Photoshop's* Healing brush is one of the most important tools for retouching skin.

Dimitri Delacovius regularly works on painting establishing shots for feature films – and, yes, he uses *Photoshop*.

> "For storyboarding it is essential, because it's possible to create far more professional and finished-looking designs than if I was to draw designs on paper" **TRISTAN RAMSAY, SCORCH DESIGN**

At Vivienne Westwood, Joe de Campos regularly creates new fabric designs from fashion designers' sketches. Photograph by Ugo Camera.

life – he started using it nine years ago and hasn't looked back since. "My first experience was about nine years ago," says Franco. "I worked together with a friend who was a graphic artist and we did a pretty cool collage-series of models. This was before you had CD-writers or big hard discs: we delivered the pictures on 40MB cartridges to the lab and made slides out of the digital data – then we printed them on cibachrome..." Franco, like Dana, soon appreciated that *Photoshop* was to become a part of the photographer's profession – if for no other reason that to stop '*Photoshop* workers' killing his work. "At the time I thought that manipulating pictures was a stand-alone profession," he explains. "But then I realised that most of these workers had no clue about light, perspective and the basics of photography – and most of the time they made a completely different image out of the picture. That's why I started to read books and take my first shy steps in *Photoshop*."

Coming to a screen near you

"My work as a *flame* operator falls into two rough categories, effects and design," says Ally Burnett, who works at Soho post-production studio Red (**[w]** www.red.co.uk), creating motion graphics for the small and big screen. "I work on pretty much everything – commercials, music videos, broadcast design and the occasional feature film." It's all too easy to assume that his work will be limited to industry-standard editing and animation software, but he still comes across *Photoshop* on a daily basis. "It's mainly as an intermediary for design jobs," says Ally. "Designers bring in layered *Photoshop* files, we'll open them up here, discuss, then extract the necessary elements. I use a fair bit of *After Effects* – it's obviously lovely that you can import *Photoshop* compositions directly to *AE* with all the layer order and transfer modes intact. Sadly *flame* has no such feature in the version we use."

Tristan Ramsay, of Scorch Design, **[w]** www.scorchdesign.com, works in a similar field, but finds himself using a much broader range of software. *Photoshop* is still an essential cog in the machinery though. "The main thing I use it for is creating the initial design elements that will be used in the animation in *After Effects*. This can include background shapes, text, and heavily treated images. I also

use it to cut out people and objects from images to use in 3D fly-through animations," says Tristan. "For storyboarding it is essential, because it's possible to create far more professional and finished-looking designs than if I was to draw designs on paper."

In the same way that *Photoshop* work has evolved from chemical darkrooms, *Photoshop* painting has also helped in the creation of feature film effects. "Digital matte painting has replaced the traditional matte painting and on-set 'glass' paintings, used in the past to add 'backgrounds' to a shot," says Dimitri Delacovius, of visual effects studio Double Negative (**[w]** www.dneg.com). "It was working on the film *Lost in Space* in 1996 that I first used *Photoshop*, as *Photoshop* became – and largely still is – the defacto digital painting software used for high-resolution images.

"We use *Photoshop* for virtually all our paint requirements, ranging from previz sketching, scanning and manipulating reference photos, concept artwork, hi-res texture work to be used in 3D images, frame retouching and, of course, full-blown digital matte painting."

Photoshop fine art

It may be of little surprise that *Photoshop* is also widely used by artists seeking a tool that enables them to fully exercise their creativity. Artist Rob Sutherland (**[w]** www.unstableimages.co.uk) started as a more traditional painter, but in the last four years has grasped the new opportunities that *Photoshop* offers. "*Photoshop* provides a canvas and a dumping ground for my 'real world' paintings, photographs and objects," says Rob. "It enables an unparalleled flexibility in terms of colour, composition and content. It turns image-making on its head, even allowing what would ordinarily be a finishing detail to become the starting point of an image."

Mike Mike is an artist responsible for an online art project called Face of Tomorrow (**[w]** www.faceoftomorrow.com), creating images of morphed passport-style photos to show what a country looks like, facially. Naturally, *Photoshop* plays its part. "I take photographs on the street, then I download these to the computer and align them and colour correct them," says Mike. "Mostly I adjust Brightness/Contrast in order to get a more realistic look. I then take these files into another morphing program, which accurately morphs one face with the next."

Dedicated followers of Photoshop

So, photographers, motion graphics artists, effects studios and fine artists use *Photoshop*. Fair enough. But would you expect it of fashion designers as well? Possibly not, but at Vivienne Westwood, it is an integral part of many processes, as Joe de Campos, one of the fashion house's graphic designers, explains. "*Photoshop* is used in almost every aspect of our work. We might be presented with a small photo of an old collection print that doesn't exist any more and asked to do an exact artwork of it, which we would do with

Artist Mike Mike doesn't use *Photoshop* extensively, but it always comes in handy on his photographic artworks.

> "*Photoshop* turns image-making on its head, even allowing what would ordinarily be a finishing detail to become the starting point of an image" **ROB SUTHERLAND, ARTIST**

How the professionals use Photoshop

Three *Photoshop* users divulge which program features they find most useful...

Dana Hursey, advertising photographer

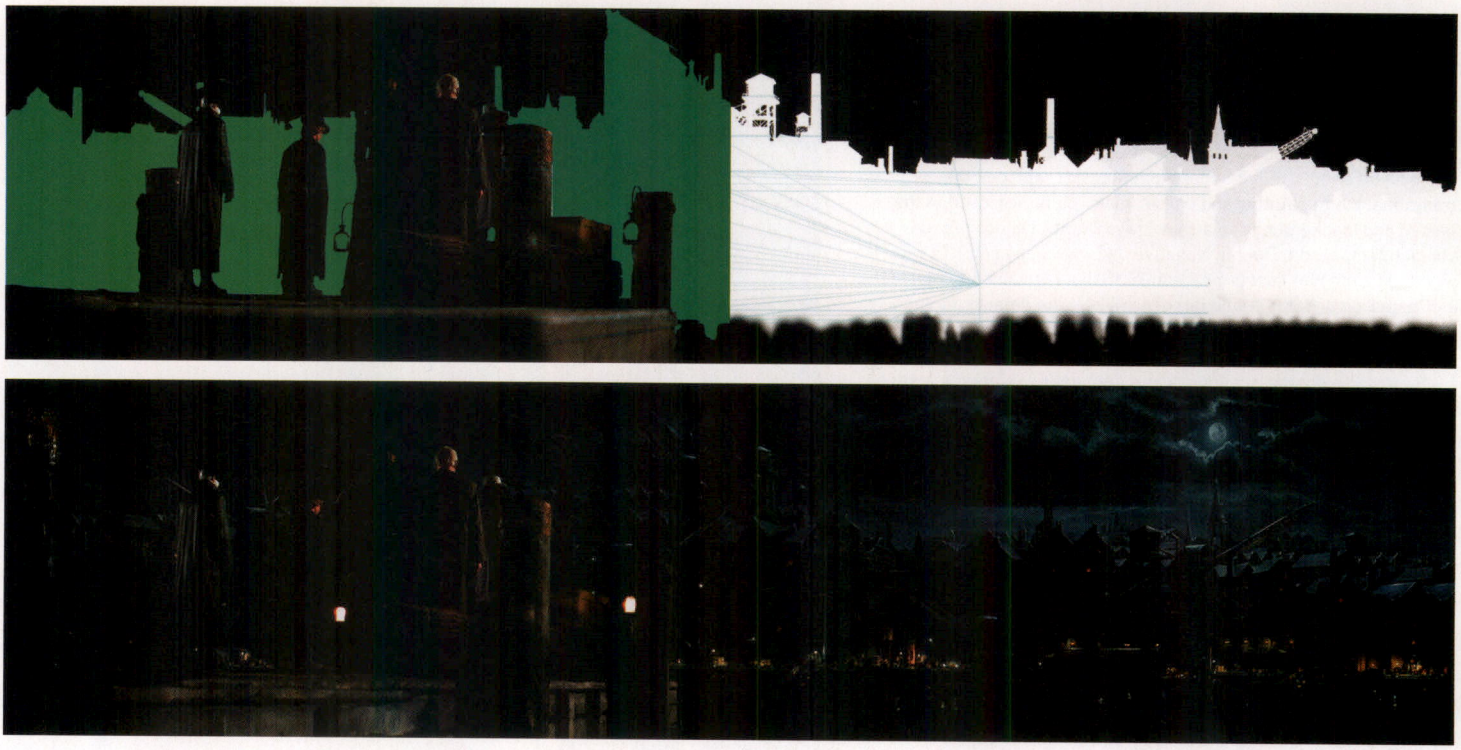
"I would say one of the tricks I use most is to remedy the inherent flatness of digital captures. Duplicate the image layer and make the top copy a 25-35 per cent opacity with the layer set to Soft Light."

Tristan Ramsay, motion graphics artist

"I use the Pixel Aspect Ratio view option quite often as it enables you to design elements in *Photoshop* as they will be seen on a TV screen. Without using it, a design created in *Photoshop* can look very different to how you intended it to come out on TV."

Dimitri Delacovius, digital matte painter

"It is the brushes and layers that are the fundamental tools for me because I simply use *PS* as a painting tool. Image adjustment, editing and transforming, filters and cloning are the digital extras that make your life so much easier."



Above: This shows how Dimitri Delacovius created a set extension and period setting of London docks for the feature film *League of Extraordinary Gentlemen*.

Fashion photography

Franco Garzarelli on shooting for a wraparound CD cover...

The brief: "The idea of the art director was to shoot a scene of a big drug-deal."

The shoot: "I set up a fix camera-view and after every shot we marked on the floor where the guy and the car stood. The main problem was the sun – at the beginning of the shoot the shadow was shorter than at the end."

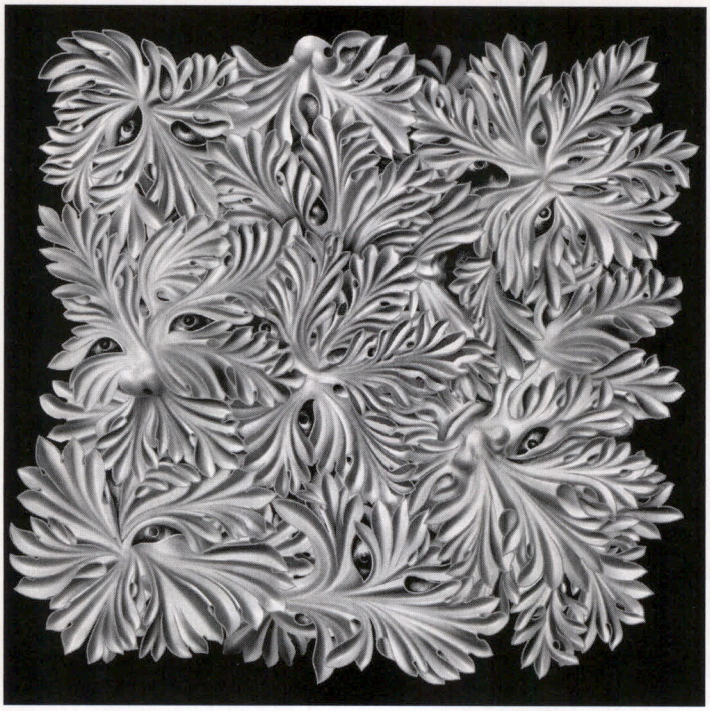
Photoshop: "I chose the right images and then copied all the pictures to a single PSD file. I had to make the shadows appear the same, and also the reflection of the guy in the cars. After all that, I thought a little helicopter would also be nice – fortunately, I had shot one just three or four months before that shoot. I did the sharpening on a copy of this picture – altogether it took about eight hours."

Photoshop enables photographer Franco Garzarolli to take on the role of a designer, creating montages such as this CD cover design.

From sketches to clothes

How Vivienne Westwood's graphic design team uses *Photoshop*...

Joe de Campos is one half of fashion designer Vivienne Westwood's graphic design team. Here he explains how he uses *Photoshop* to make creative sketches a reality on the catwalk: "In our company, most of the creative work is done using *Photoshop*. There are two of us in the graphic department and our work is to translate the designers' ideas into actual work. One of hundreds of examples of this is the print for the Acanthus fabric. Vivienne thought of it and her idea was 'created' entirely in *Photoshop*. She and other designers often use *Photoshop* – through us – just to see different colour variations, positioning of things, existing prints, and so on. Nearly all our fabric prints are done using *Photoshop*."



Vivienne Westwood's Acanthus fabric started life as a sketch, was designed in *Photoshop*, then ended up on the catwalk. Photograph by Ugo Camera.

tiling and colour separations or, as in most cases, create a new print from scratch.

"The fact that *Photoshop* integrates smoothly with *Illustrator* gives us the best of both worlds. We usually work both programs simultaneously, carrying artwork from *Illustrator* and manipulating it in *Photoshop*. Obviously colour in fashion is very important, and being able to manipulate colours in separate layers on an intricate print makes life a lot easier."

Photoshop is probably the most versatile and widely used graphics software, as we've seen. People all over the world use it on a daily basis – not just the amateurs emailing photos of their son to grandma, or the graphic designers preparing artwork for a print job, but everywhere. They find it useful in a variety of ways, maybe only exercising a fraction of the features and tools in their particular field of work, but they all have one thing in common. At one point in their working day, when nothing else will do the job quite as well, they reach for *Photoshop*. ca-p

> "Colour in fashion is very important, and being able to manipulate colours in separate layers on an intricate print makes life a lot easier" **JOE DE CAMPOS**

Photoshop in fashion

Creativity can come easier with good graphic software such as *Photoshop*, used here to create the Vivienne Westwood Acanthus print...

The Acanthus print originated from a Vivienne Westwood sketch, and the objective was to make it resemble carved stone. We show you how to build a portion of the full print – you can then use the same techniques to create the rest. It will take perseverance to recreate, but the experience will bring you great confidence next time you have to tackle an intricate project like this.

Because we're trying to achieve a handcrafted feel it's important to give each leaf individual attention in the final touching-up stages. We suggest you use certain tools manually in *Photoshop*, as opposed to obtaining results automatically through the use of plug-ins. Using manual techniques is almost like using a paint brush, and this is how you'll achieve the best results. Having said that, there is no set formula on how best to use *Photoshop* – if it looks good then that's the right way to do it. Experiment and it will happen.

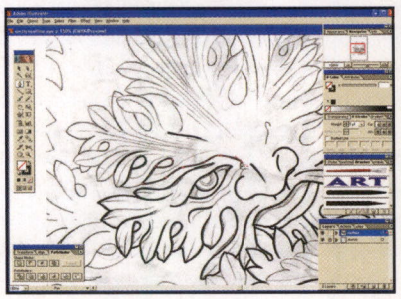
Photograph by Ugo Camera.

All the components needed to complete this tutorial can be found on the cover CD in the Software\Tutorials\Tutorial files\Tutorial files\All\Fashion folder

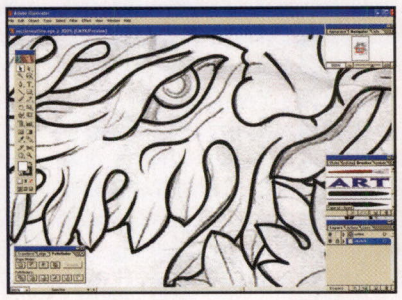
Expertise provided by Joe de Campos. Joe has been a graphic designer with Vivienne Westwood for just over six years. His work varies from ad campaigns to artwork creation to 3D visuals, and his tools of choice are *Photoshop*, *Illustrator*, *3ds max* and *Premiere*. **[w]** www.viviennewestwood.com.

Part 1: Getting started

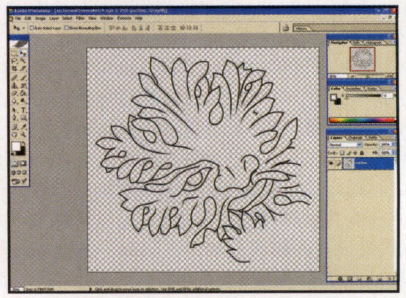
Before you start 'painting', prepare your canvas...



1 It's important to get clear lines in your drawing because they'll be the basis of the whole artwork. The best way to achieve this is to create outlines using *Illustrator*. Open your scanned drawing and lock the layer. Start drawing outlines of your sketch using the Pen tool on another layer. See sectionoutline.pdf on the cover CD for an example.



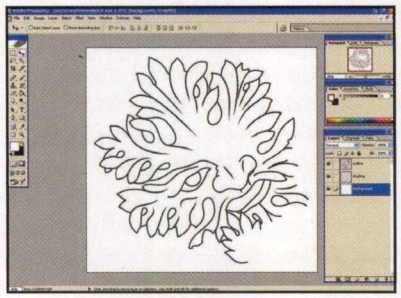
2 To get a better finish on some of the lines, use a tapered round brush from the Brushes palette. You might have to play with the percentages to get lines of the same size as the rest of your artwork.



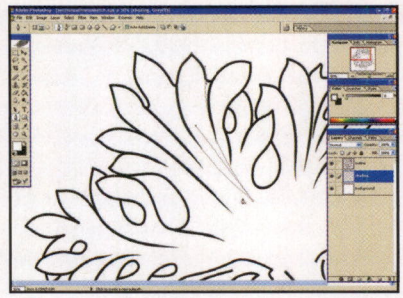
3 After you've finished tracing the whole image, discard the sketch layer. Save the image as an eps so you can open it later in *Photoshop* to the resolution of your choice. The above image shows the outlines opened in *Photoshop*.

Part 2: Working on the leaves

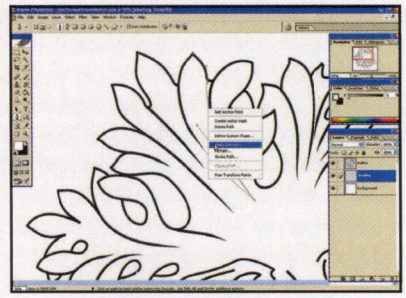
Spend some time playing with the light and shadows...



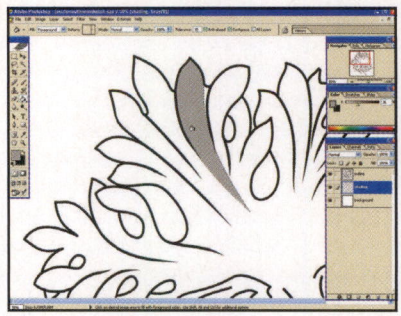
1 Rename your first layer as an outline and create two more layers under it. Name one of them 'shading' and the other 'background'. Paint your background layer white. Once again make sure your outline layer is the top one.



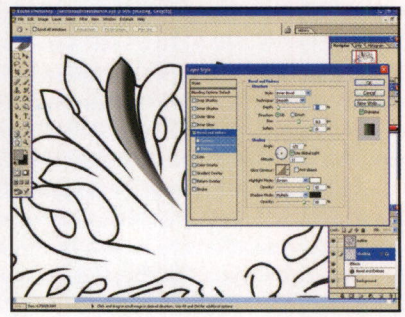
2 You need to draw the leaves one by one to achieve the effect needed. Using the Pen tool, trace the outline of one of the leaves. Try to do it this way so the leaf will look like it's coming out of the centre of the face.



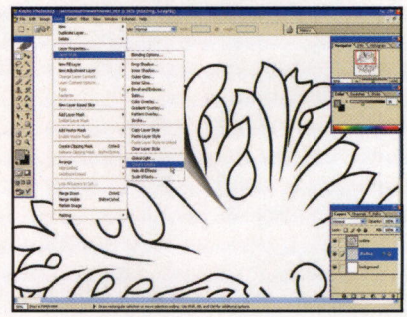
3 Adjust the path with the Convert Point tool. Once you're happy with your path, make a selection with a click of the right mouse button.



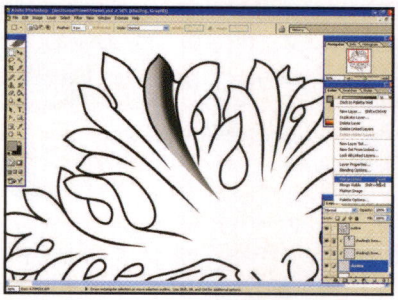
4 Choose a stone grey colour from the colour palette and fill your selection. Make sure that all this is done on the shading layer. It's a bit time-consuming to do each leaf one by one, but the effect you get in the end is worth the effort.



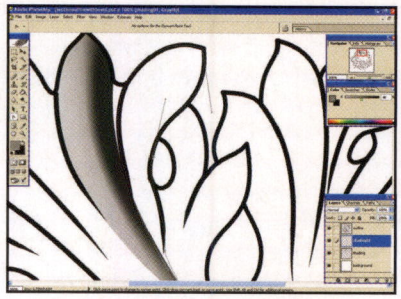
5 There are a few ways in which you could tackle the next step. You could use an Eyecandy bevel plug-in or manual shading with the Burn tool, but we're going to use the built-in *Photoshop* bevel option. Try to give the leaf a 3D look.



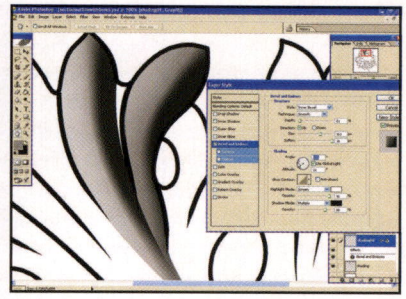
6 You need to flatten the layer style so you can use the Burn and Dodge tools later on. One way is to go to the Layer menu, choose Layer Style and then Create Layers. This separates the effects you've applied onto two layers.



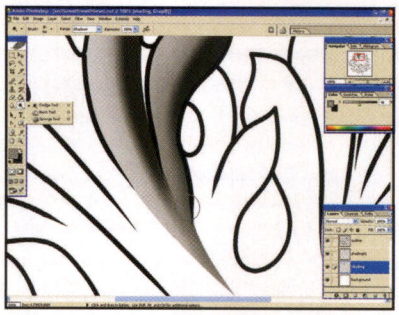
7 Now link the shading layer with the two that were just created and Merge Linked. This should give you one layer with the effect applied.



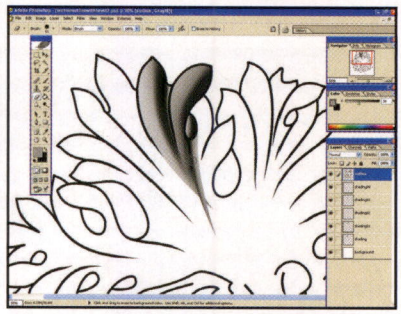
8 Okay, that's one leaf done. Now repeat the same process on the adjoining leaf. Once again, use the Path tool to draw the contour of the shape of the leaf. Every leaf has to be created on a separate layer so you can manipulate them individually later on.



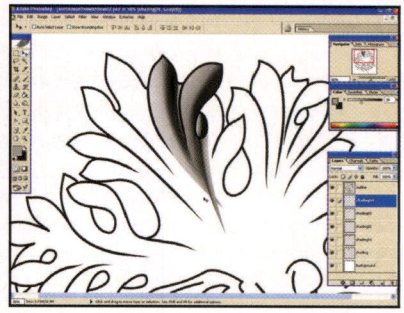
9 Once again, we're going to apply the bevel effect to the leaf. Adjust the Shading Angle bearing in mind the positioning of the leaf – we've chosen a setting of 152 degrees. Don't forget to create the effect layers and merge them as before.



10 By using the Dodge tool you can lighten the shadow of the first leaf so it blends nicely with the neighbouring ones. This is why it's important to keep separate layers for each leaf.



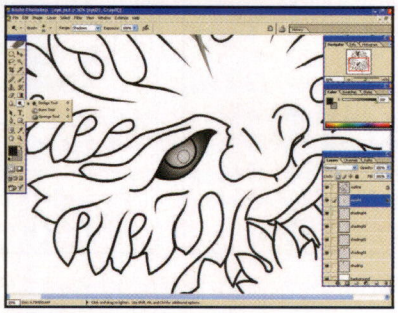
11 Some of the lines we created earlier might not be needed after you've done the shading so you can start tiding up by erasing them. To fill in the little gaps in-between the leaves you'll have to use the same step-by-step process.



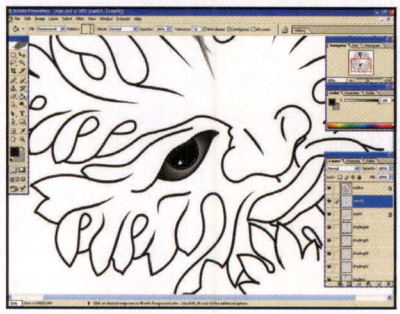
12 Where the leaves curl, remember that the light is inverted. We're trying to achieve a realistic looking effect so keep the light angles consistent to the source of light. Now, let's take a break from the leaves to work on the eye.

Part 3: Creating the eye

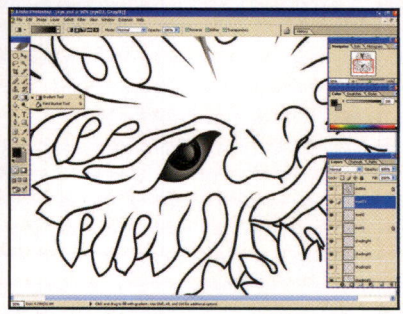
Attention to details is the key factor here...



1 The eye is quite simple. Create a new layer, rename it and fill the whole outline of the eye with the same stone grey colour you've used for the leaves. Highlight the centre of the eye with the Dodge tool so you get a nice spherical effect.



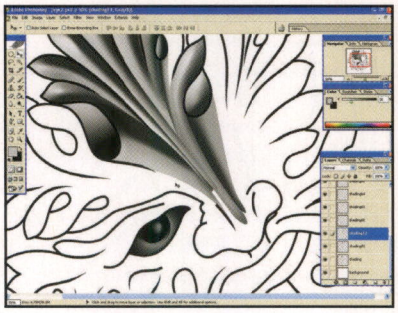
2 Select the pupil area and fill it in with black. You should use a different layer for the pupil so that later on, if you need to do more highlighting on the eyeball, it won't affect the pupil, which should be kept black.



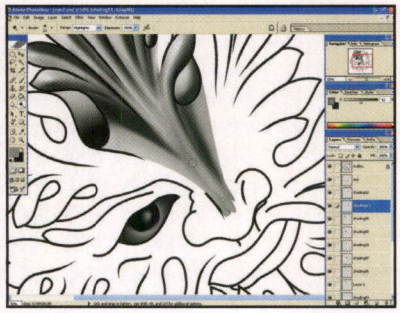
3 Make a circle selection in the centre of the pupil and use the Gradient tool to achieve the effect of a sphere. Erase any part of the circle that is outside the eye contour. Play around until you get the effect you like. That's enough work on the eye for now.

Part 4: Blending the centre and performing a nose job

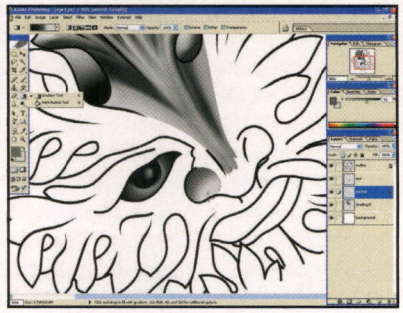
Experiment and use your imagination to create the right effects on the nose and forehead areas...



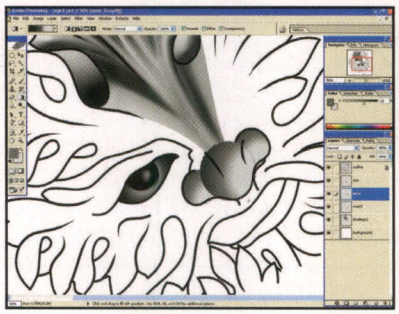
1 At this stage, we've completed a few more leaves and, as you can see, the shadows near the centre of the face are not very convincing. It's important that all leaves are in their own layers.



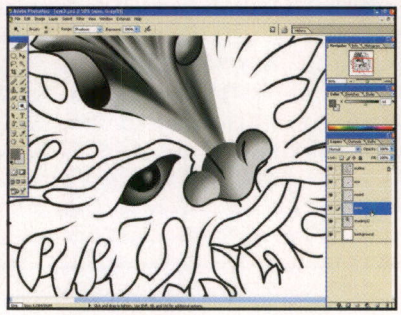
2 By going to each layer and using the Dodge tool you can smooth out the darker edges of a leaf to match its neighbours. Once you're satisfied with the results, Merge Link all the leaf layers. That's one set done.



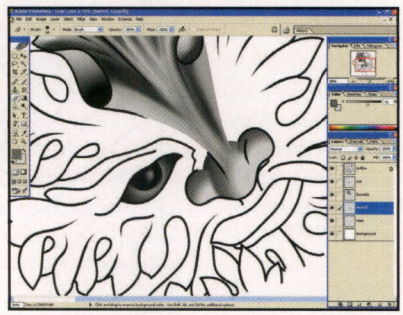
3 On a new layer called 'nose' draw a circle to fit the nostril and use the Circle Gradient tool to give a nice light effect. Do the same for the other nostril. Use a light grey for the highlight of the gradient – don't use pure white.



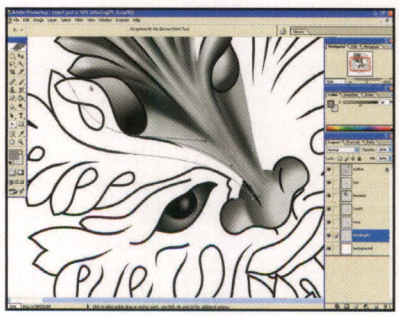
4 For the centre of the nose use the same procedure but with a bigger circle. It's really up to you how much highlight you want to give to this area of the design.



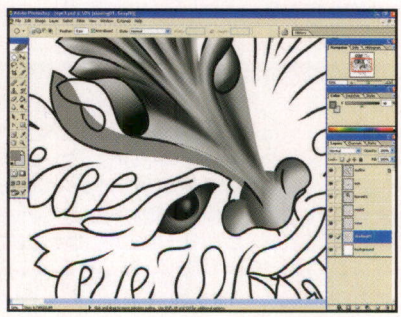
5 Make the centre of the nose circle layer the bottom layer below the two nostrils. This makes it easy for you to erase the portions of the nostrils that overlap the centre of the nose – use a slightly feathered Eraser tool for this. When you're happy with the result, merge the centre of the nose and the nostrils.



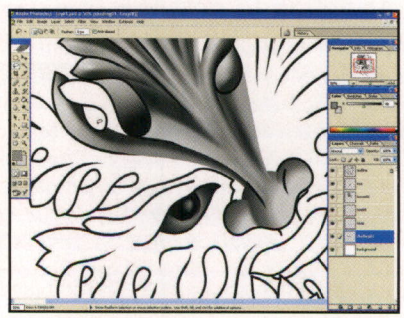
6 If you haven't done so already, place the layer that contains the set of leaves above the nose layer. Again using a feathered Eraser tool, get rid of the base of the leaves so that it blends well with the nose.



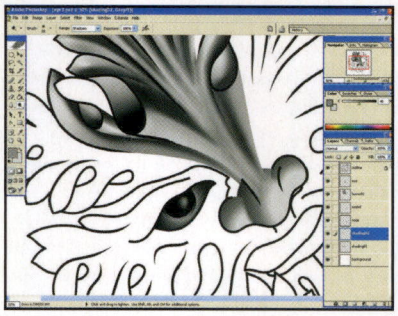
7 There are some leaves that could give you unwanted shadow artifacts due to their shape. In these cases, when you're using the Path tool to draw the leaf, try to follow a smoother drawing curve even if it overlaps the original outline.



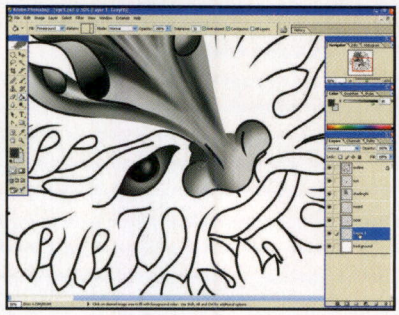
8 Fill in the shape of the leaf with the grey colour; apply the bevel and so on. Only after you've finished this can you get rid of the excessive, overlapping parts of the leaves.



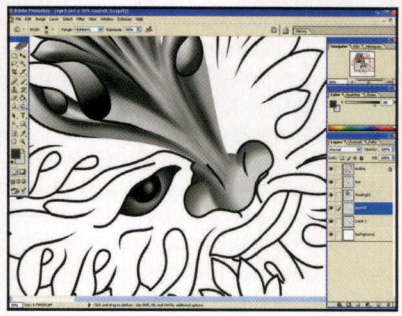
9 It's starting to look good now. At this moment you could start filling in the other leaves and merging them into sets and blending them into their surroundings.



10 Throughout this project you have to visualise how the folds occur on the leaves. You may decide to exaggerate these like we've done on the little fold above.



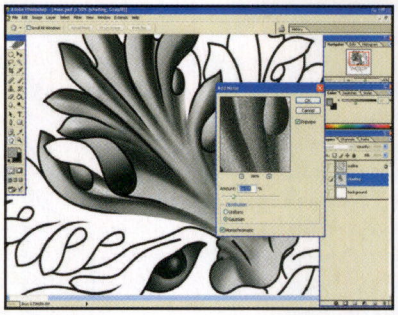
11 You'll find unfilled spaces from time to time such as on the nose section. In these cases you can create a layer at the bottom and fill it with the grey colour. You can then play with the brightness slider until you get the best match with the upper layers.



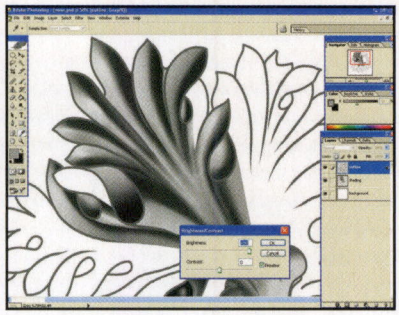
12 On all these fill-ins use your imagination and whatever tools you think most appropriate to increase the illusion of a 3D effect. Remember you're trying to make it look like carved stone.

Part 5: Finishing off

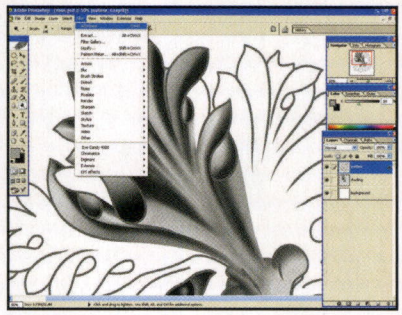
By this stage, you'll begin to see the hard work paying off...



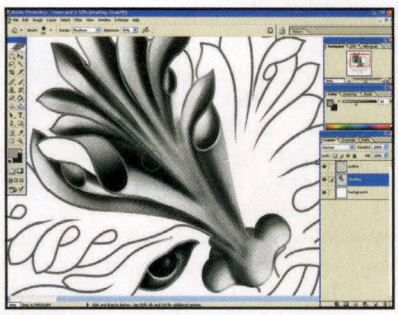
1 Once you've done all the leaves and they're nicely blended, merge them into a single layer so you're left with just three: outline, shading and background. The whole thing looks a bit too smooth so this is where the Add Noise filter comes in. Apply some noise to the shading layer.



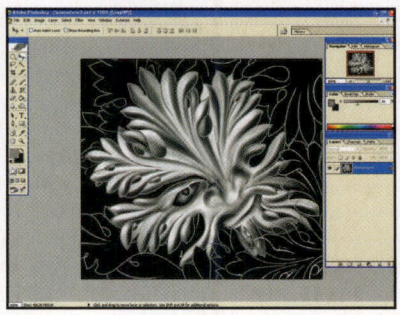
2 Go to the outlines layer now and using the Brightness slider lighten the black outlines to a lighter tone of grey to enhance the edges of the 'stone'.



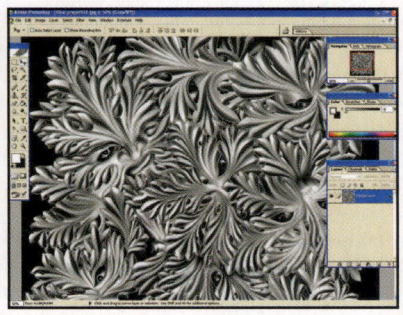
3 Apply the same Add Noise filter to the outlines. If you've progressed this far, the results of your hard work will start to appear.



4 The finishing touches can be given to both layers to bring out interesting sections of the texture. By using the Burn tool after you've applied the Add Noise filter, you'll get a better texture effect, a nicer grain. Experimentation is the key.



5 To get a more dramatic lighting effect, change your background to black. This stone face is only one part of the whole artwork but it is the most complex to create. You probably have enough for now, but the whole piece consists of ten stone faces similar to the one we've just finished.



6 This is what the whole artwork should look like. Adjust the Brightness of the individual parts so they look similar. The artwork is tileable, which means that by placing those parts next to each other you'll be able to build up a piece as big as you want. ca-p

Fine-art photography

Can you make it as a modern artist? The gloves are off and the time is right to exhibit your images...

Modern art is no longer just about pickled sharks and empty beds; a new wave of artists is employing the latest technology to create cutting-edge imagery. So if your only experience of modern art is the Turner Prize exhibition, here is you chance to find some inspiration.

The hardest part of being an artist is coming up with ideas, so in this tutorial we hope to give you a few pointers to get you started. But remember that art is an organic beast that never sleeps and, thanks to our ever-developing software and technology, there's also no limit to the visual expression of the mind. If you have a creative streak, believe in what you do, and love just creating – that's the main reward that art has to offer. If you then manage to sell something, it's a bonus.

Walking up to the Tate Modern with your latest creation and asking for an exhibition would probably end in a rather unpleasant and embarrassing exit from the building, but approaching your local trendy café or library could bring a pleasing result.

Of course, you don't need to rely upon others for your exhibition space. You can get together with a group of friends and put on your own exhibition; after all, this approach worked for Damien Hurst and his friends back in the 80s with their warehouse show 'Freeze'. The rest is history.

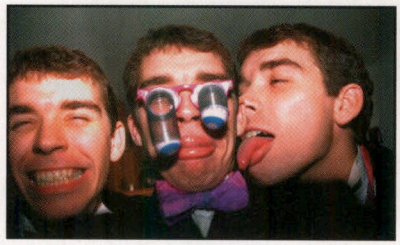
Expertise and images provided by Paul Smith. Paul was one of a small group of photographers in the mid 1990s who embraced the creative possibilities of photography and digital technology using computer software such as *Photoshop* to make crucial photographic work. Visit **[w]** www.paulmsmith.co.uk.

Part 1: From inspiration to exhibition

Think of a concept and plan your photoshoot...

Concept is the key

Most contemporary artists use their own life experiences as a basis for their ideas. The skill is in converting your ideas into a visual form that can be read and understood by your audience. It helps to use a visual reference from a pre-existing visual format as a starting point. In this case, we've used the warrior heroes from the film *Crouching Tiger, Hidden Dragon* as our inspiration.



1 By using an existing visual form, viewers can immediately recognise what the image refers to. An example of a visual style is the snapshot, and in particular the snapshot taken during a night out. This image uses the method of the multiple self-portraits to tell its drunken tale.

2 Everyone has their own way of working, but for this project all the ideas evolved through the use of a sketchbook, in which images were mapped out and all the components were planned. The pictures were then shot on film, drum scanned and manipulated using *Photoshop*.

3 Pre-planning is vital prior to the photoshoot – there's nothing worse than turning up with a team of assistants and not finding the right location to shoot. So visit the location in advance, take some reference shots, work out the right time to shoot and find the angle that works best for you.

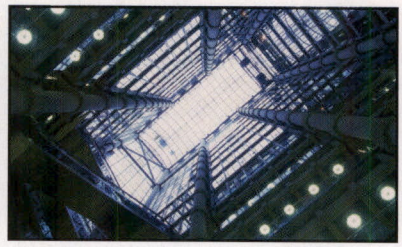
Part 2: The photoshoot

Make sure everything fits together...

Organise everything

When you're on a shoot, you need to concentrate on the pictures, so plan and brief everyone in advance. Ensure that you have everyone's mobile phone number and that people know where and when you need them. Involved in this project were Dickson Manchester (the commissioning client), the agent, a make-up artist, a stylist, a tattoo artist, a photographic assistant and a rope expert.

1 The angle that you shoot at must be the same for all your images. With this shoot all elements were taken looking directly up, so a spirit level was used on the lens to avoid any inconsistencies.



2 Lighting is the next key. In this case, there was limited control over the background image, so the other images were based on the lighting dictated from the building shot. Light was bounced from the ceiling and the underside of the figure was kept dark.

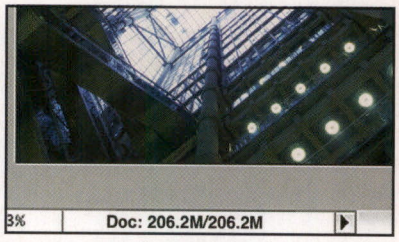
3 When shooting a layer image, try to keep the surroundings as similar to the background as possible. This helps greatly when it comes to the cutting and pasting of your image, and the blending of images.

Part 3: Preparing each layer

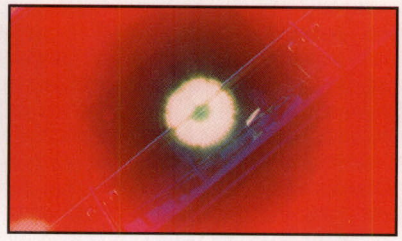
Initially work on independent layers to avoid large file sizes...

Lighting

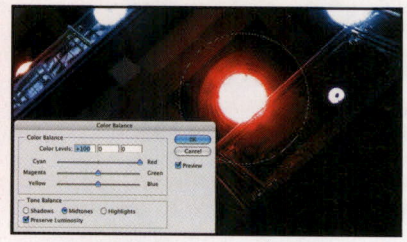
Croma-key doesn't work with *Photoshop* yet, because a single strong colour will leave its mark as an outline on a figure. A pure black background will cause your figure to blend into the surroundings, making it difficult to separate later, while white will create a halo effect. So try to shoot as much as possible in one location with similar lighting and background.



1 Prior to putting the layers together, carry out any improvements while the file sizes are small enough for your computer to handle them easily. Each drum scan, taken from a medium-format slide, is 200MB, so the final layered image can often be slow to work with.



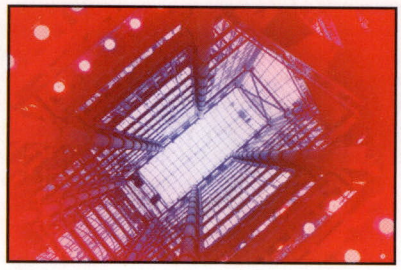
2 With the Lloyds building background we wanted to include dramatic colours in the image. This was achieved by adding additional tones to the existing lights. The first step was to create a quick mask using the Gradient tool to generate a soft selection.



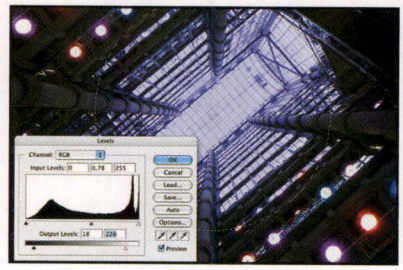
3 Add the colour to the selected area by using Colour Balance or Hue/Saturation. In this case, we used an extreme red, magenta and blue on the lights to make them stand out and give the background a dramatic and filmic atmosphere.

Photographing layers

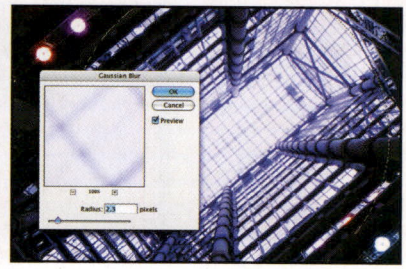
When photographing the independent layers, try to use films with the same batch numbers, because this will give you a better consistency of colour. And stick to the same image source, because mixing digitally shot images and film-generated photographs will complicate matters. Although all the differences can be resolved in *Photoshop*, it's a time-consuming process that's best avoided.



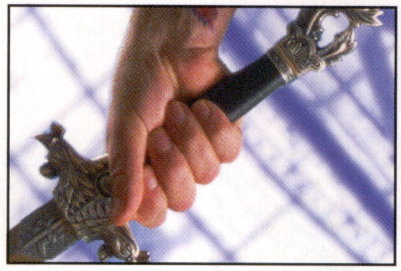
4 An additional selection is made, once again using the combination of Gradient tool and quick mask, set on black-and-white. This creates a circular selection, which was then inverted, resulting in a selection with a gentle transition from the centre of the image out to the edges.



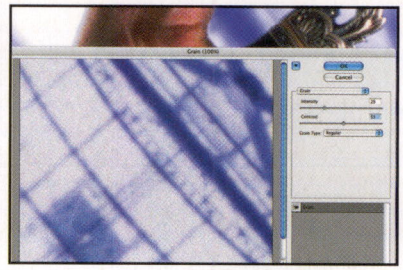
5 Levels are then used to darken down the outer ring of the image, which has the effect of drawing the eye into the centre of the frame. An additional benefit of this method is that it hides some of the clutter in the background.



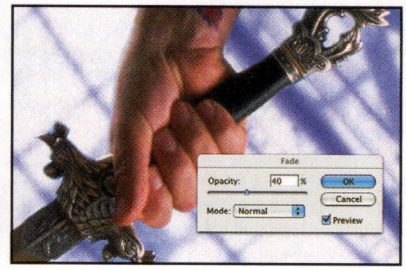
6 All the photographic elements are taken with the maximum aperture possible and blur is then added in *Photoshop*. By inverting the same selection used for the levels, we have the perfect area to apply a Gaussian blur, creating a shorter depth of field than originally used.



7 The downside of applying a blur is that the film grain that can be clearly seen in the original scan will end up being blended in. If this isn't corrected then the additional layers will have a different texture, and therefore never look correct.



8 This problem can be corrected easily if you use the same selection and apply a Film Grain or Grain filter. If you're working in *Photoshop CS*, the level of control now available with grain has been greatly increased and an almost exact match should be possible.

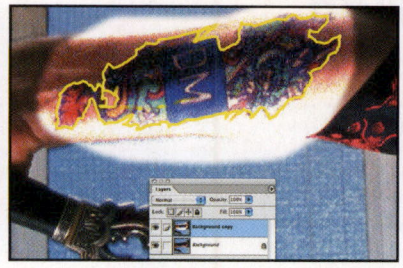


9 We recommend when using filters that you always go for a more extreme use of the filter than needed. Then once it's been applied, go to Edit>Fade and pull back slightly until the correct level of filter is reached.

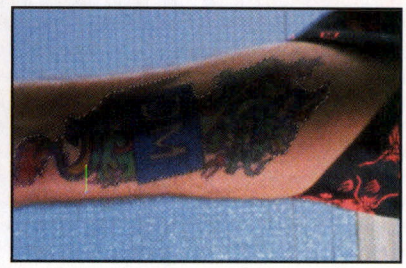
Part 4: Attention to detail

Pick out a few elements and give them a little extra punch...

1 This piece was a private commission for Dickson Manchester. The client wanted it personalised, so a tattoo artist was employed to draw a suitable design incorporating the DM initials. A make-up artist was also brought in to paint the design on the model's skin. Unfortunately, the tattoo was not clear enough in the original photograph.



2 The first stage to correcting this problem is to copy the tattoo and paste it into a new page. The layer is then duplicated. The new layer can be adjusted using Levels or any other method to increase the contrast between the tattoo and the arm. Click OK and deselect. Use the Ctrl+Z option to view the corrected and uncorrected state to see if you've done a good job. If you haven't, try again.

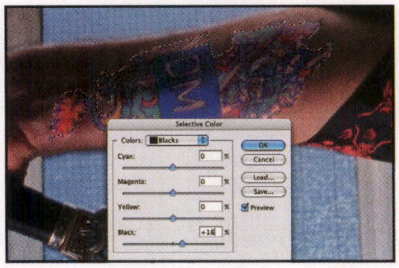


3 The tattoo can now be traced quickly using the Magnetic Lasso tool, because the tonal difference is picked up easily. Now save the selection and dump the top layer, leaving you with an unaltered image and a perfect selection.

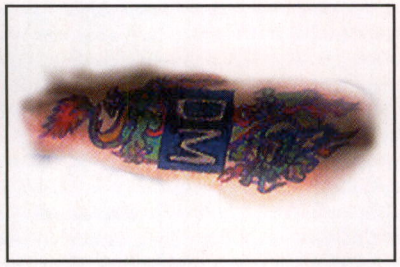
Attention to detail continued...

How big?

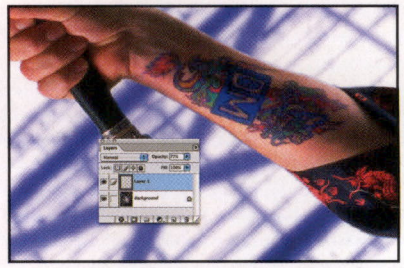
To determine which file size you need to work with, decide what output method you'll be using. Then research what the optimum file size is for your selected process. For example, if you intend to print a 10x8-inch image from an inkjet printer, a 10MB file size would suffice. However, if you plan to have a 10x8-inch negative made, 1GB might be more appropriate.



4 Apply a small feather to soften the edges of the selection. The tattoo can now be corrected via a combination of Curves, Hue/Saturation and selective colour until it's clearly defined and recognisable. Using selective colour and increasing just the black helps to bring out the outline of the tattoo.



5 Once the necessary corrections have been made, the tattoo can once again be selected. This time a soft selection incorporating some of the forearm is used to enable you to copy and paste the new layer directly onto the original forearm.

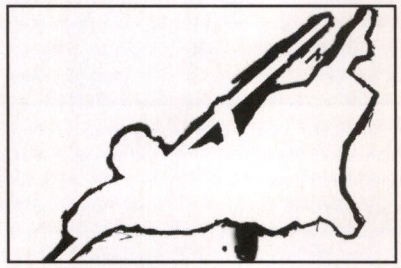


6 Finally, the new layer is lined up exactly over the original and the two layers should blend together perfectly. But if the new tattoo has been altered too much, simply drop the opacity of the new layer and let the original layer show through.

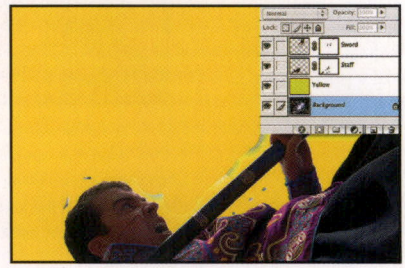
Part 5: Generating the layers

Use layer masks to add layers seamlessly...

1 A good way of extracting the core elements from the background is to start with a rough cut and paste. Then add a layer mask (reveal all) and, using a soft-edged brush, start fine-tuning your layer.



2 Layer masks offer endless opportunities to correct your cut out, but to get an accurate outline you need to zoom in until the pixels can be seen clearly. Improving edges is a laborious task, but it will improve your final image greatly.



3 Once you've completed your layer mask, drop in a blank layer just above the background and fill it with a strong colour. You'll then see clearly any remaining image that has been missed. This layer can then be used for checking each additional layer.

Part 6: Composition

Use the creative freedom of *Photoshop* to experiment with composition...

1 The background scale and the proportions of the imported elements can differ. Correct this by using the transformation tools, holding down the Shift key to retain the correct proportions.

2 Experiment with your compositional structure by rotating your layer with Free Transform. Use the line-of-sight between your figures to help decide where to position them.

3 Look for angles in the background that you can line up important elements with. In this composition, the clash of the swords is the central focal point.

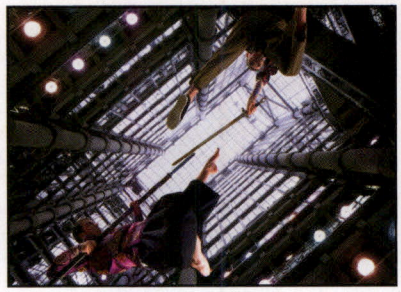
Part 7: Colour correction

Don't be afraid to experiment and push a few boundaries...

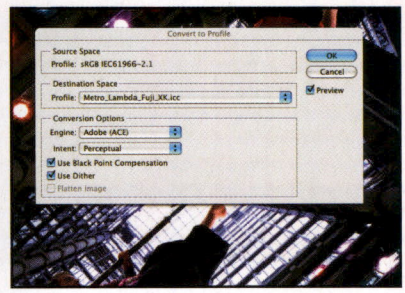
Perfect prints

There is no set rule for how a final print should be printed and mounted, but most collectors are still wary of the archival quality of digital prints. Ask your printer how long a print is supposed to last, and avoid hanging your pictures in direct sunlight and damp spaces. Finally, bear in mind that unique prints are worth more than one print in an edition of 1,000.

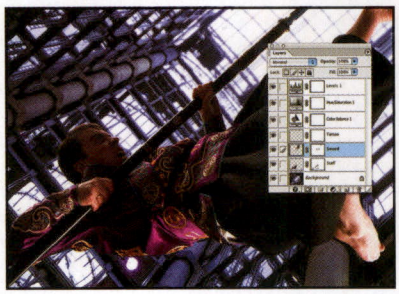
1 Colour is without a doubt the hardest area to correct, because every image differs in tone and light depending on when and where it was taken. For the Robbie Williams series of prints, everything was shot at the same time and on the same type of film.



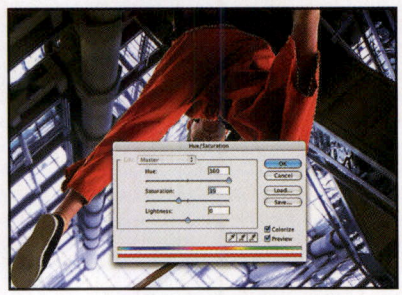
2 Images taken at various locations with different lighting sources will need to be colour balanced before they can be mixed. This colour correction should be done purely by eye, using a combination of Hue/Saturation and Colour Balance.



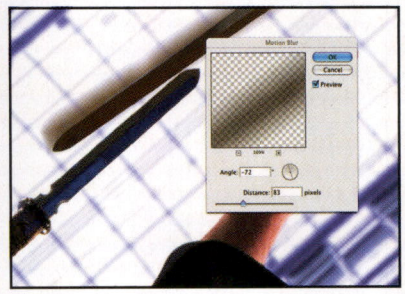
3 At a size of, say, 125x100cm, most photographs are improved if they are colour saturated and given more contrast than normal. To get a decent colour match, download a specific colour profile to match your printer's settings.



4 Once the layers are in tune with each other, add a series of Adjustment Layers (Hue/Saturation, Curves, Colour Balance, and so on) depending on what corrections are needed. You can use these adjustment layers to compensate for any changes that occur during the profile conversion.



5 The trousers worn by the swordsman seem to be fading into the background. Select them and, in the Hue/Saturation dialog, select the Colourise option to add red. This ensures they're more prominent within the frame.

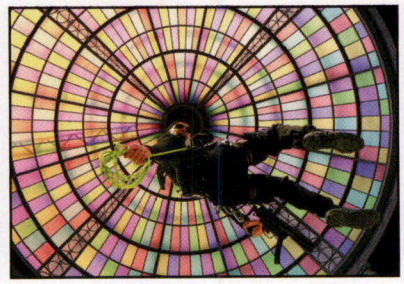


6 To add a final touch of realism, select the end of the sword, copy and paste it under the original layer, and apply a motion blur. This has the effect of putting some movement into the weapon without losing all the blade's detail. Repeat the process with the staff.

Part 8: Printing and presentation

Find a printer you can trust...

1 Once you've finished all your digital work ensure that you've flattened the image, removed any dust spots and saved the image to the required format that your printer has requested. This can vary greatly depending upon the method of printing.



2 When it comes to printing processes, you can create a negative directly from a digital file, which is then printed using a standard photographic method such as Duratans. Another popular printing process is Lambda prints, used mainly because of their archival quality.

3 Finally don't spoil all your hard work by using a clip frame. Try dry-mounting onto aluminium or using a decent frame. The image created in this tutorial was part of a series of photographs that were shown on light boxes, hung directly from the ceiling and viewed from below. ca-p

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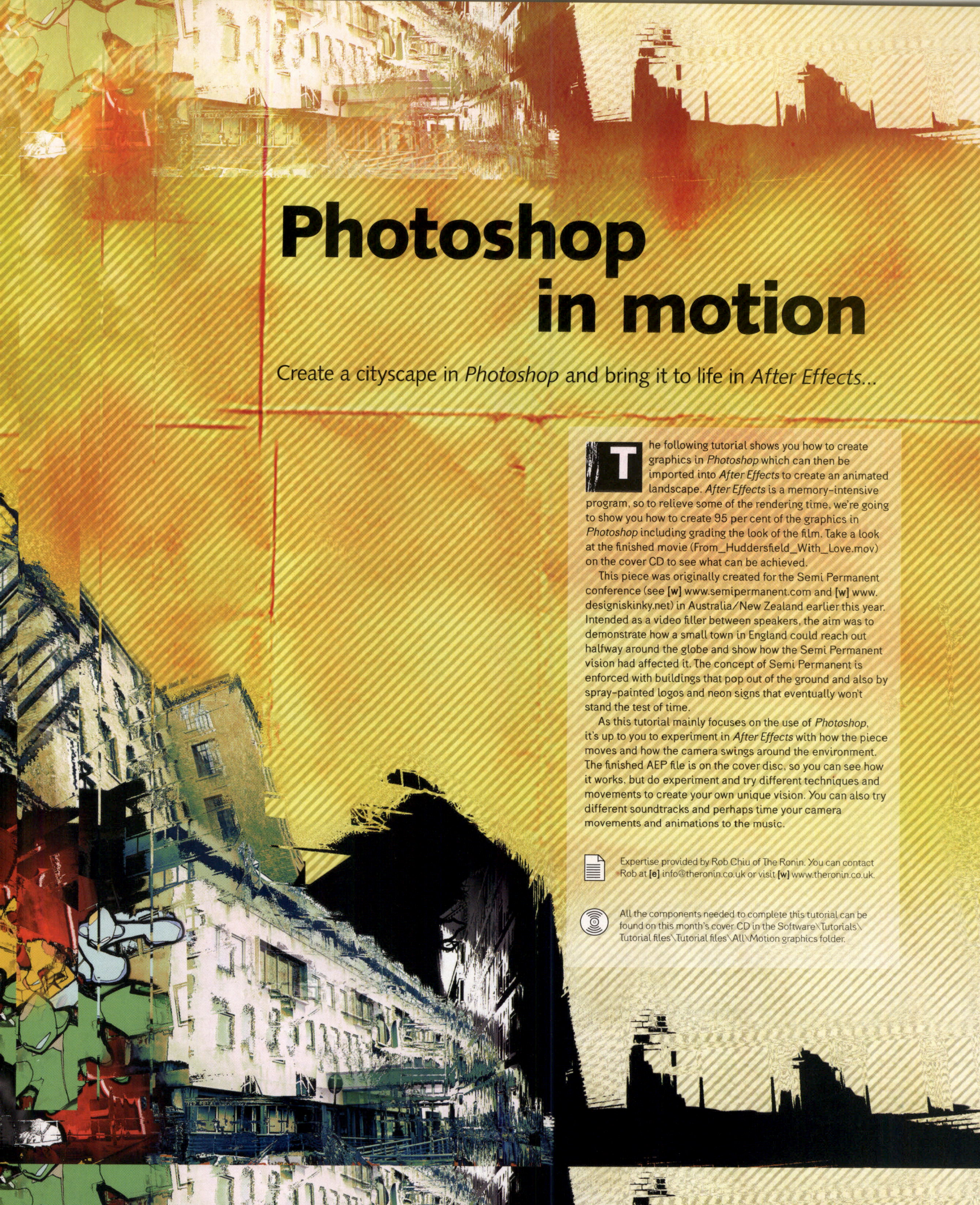
Photoshop in motion

Create a cityscape in *Photoshop* and bring it to life in *After Effects*...



The following tutorial shows you how to create graphics in *Photoshop* which can then be imported into *After Effects* to create an animated landscape. *After Effects* is a memory-intensive program, so to relieve some of the rendering time, we're going to show you how to create 95 per cent of the graphics in *Photoshop* including grading the look of the film. Take a look at the finished movie (From_Huddersfield_With_Love.mov) on the cover CD to see what can be achieved.

This piece was originally created for the Semi Permanent conference (see **[w]** www.semipermanent.com and **[w]** www.designiskinky.net) in Australia/New Zealand earlier this year. Intended as a video filler between speakers, the aim was to demonstrate how a small town in England could reach out halfway around the globe and show how the Semi Permanent vision had affected it. The concept of Semi Permanent is enforced with buildings that pop out of the ground and also by spray-painted logos and neon signs that eventually won't stand the test of time.

As this tutorial mainly focuses on the use of *Photoshop*, it's up to you to experiment in *After Effects* with how the piece moves and how the camera swings around the environment. The finished AEP file is on the cover disc, so you can see how it works, but do experiment and try different techniques and movements to create your own unique vision. You can also try different soundtracks and perhaps time your camera movements and animations to the music.

Expertise provided by Rob Chiu of The Ronin. You can contact Rob at **[e]** info@theronin.co.uk or visit **[w]** www.theronin.co.uk.

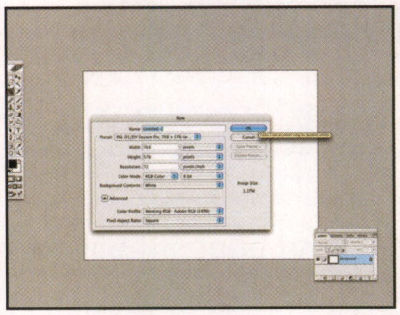
All the components needed to complete this tutorial can be found on this month's cover CD in the Software\Tutorials\Tutorial files\Tutorial files\All\Motion graphics folder.

Part 1: Re-creating the city of Huddersfield

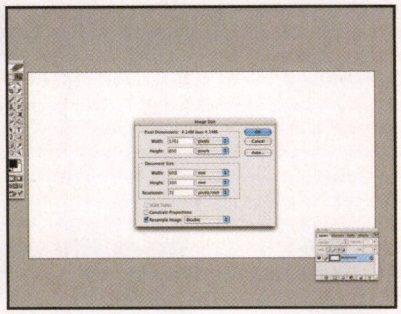
Prepare your document and find some source material...

Proxies

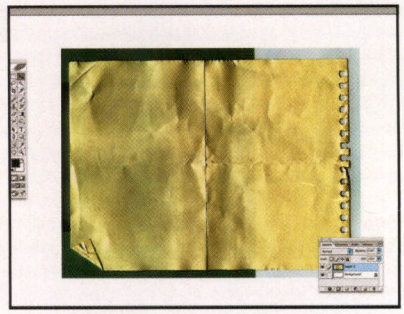
Because the original 300dpi created for this piece would slow down some CPUs, we have optimised the *After Effects* file by using proxies. Proxies are low-resolution files that are effectively the same as the high-resolution file. Using proxies in your workflow speeds up render times so that you can preview stuff much quicker and thus increase your work output rather than sit around every ten minutes watching progress bars.



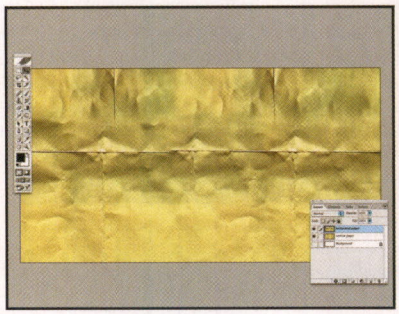
1 Usually when creating a *Photoshop* document you'd create a composition of 768x576 for PAL at 72dpi, but as we want to be able to zoom into areas of our composition, we need to make the graphic a lot larger and at a higher resolution.



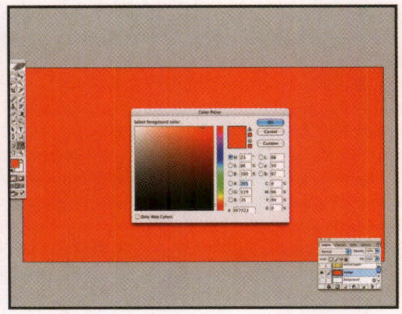
2 Make the document as large as possible. For the purpose of this tutorial we'll create an RGB document of 600x300mm at 72dpi to accommodate the width of the landscape and also to enable us to zoom in with no loss of resolution. However, if you have time and processor power, you should use the same dimensions but at 300dpi. Name the document: HD skyline.



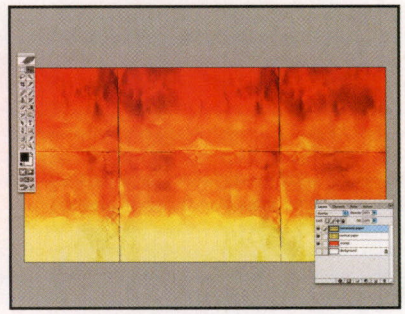
3 Drag paper.jpg into the document twice so that you have two layers of paper. Name one 'horizontal paper' and the other 'vertical paper'. This is just a piece of scrap paper we found and scanned in.



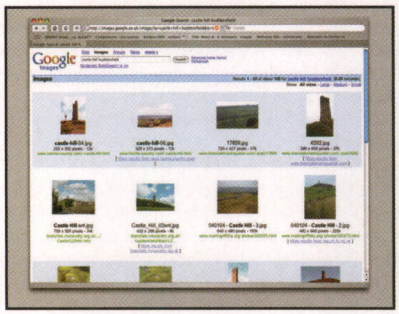
4 Using the Clone tool and by rotating the layer, make the crease on the horizontal paper layer run horizontally. Likewise, make the crease on the vertical paper layer run vertically. These layers are used to create a texture in the cloud background. Set vertical to Multiply and horizontal to Overlay.



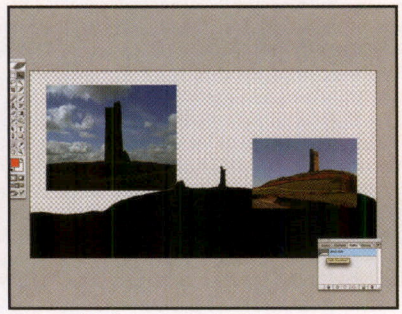
5 Next create a solid layer of orange, such as R:255, G:119, B:35. This colour is used be give the sky a sunset/sunrise tint.



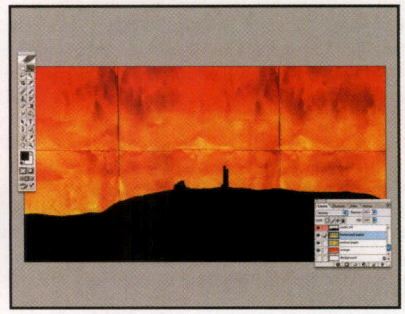
6 Feather off the bottom quarter using the Lasso tool and a Feather Radius of around 50 pixels, then delete the selection. Make this your bottom layer above only the default background layer.



7 The next stage results from a Google image search for 'Castle Hill – Huddersfield' and tracing various images in *Photoshop*. These elements are combined to create a unique view of the hill. Due to copyright control, we can't include these images on the cover CD but there's nothing stopping you from searching for them yourself.



8 To create this style of image, use your Pen tool (p) and treat the subject as if you were creating a normal path. You may have to make the slopes of the hill continue to the sides of your document. Once you're happy with the path, hold down the Ctrl (Windows) or Cmnd (Mac) key and select the path in the Paths palette.



9 This turns the path you've drawn into a selection. Create a new layer and fill this selection with a solid black. Name the layer 'castle hill' or, if you haven't followed the last two steps, simply drag the document castle_hill.psd from the cover CD into your document and place over the top of the two paper layers. Save your progress.

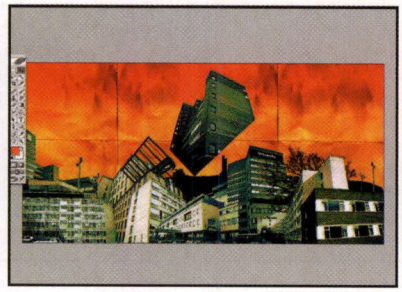
Part 2: Creating paths and rebranding the city

Carefully cut around your buildings and objects and use type to add character...

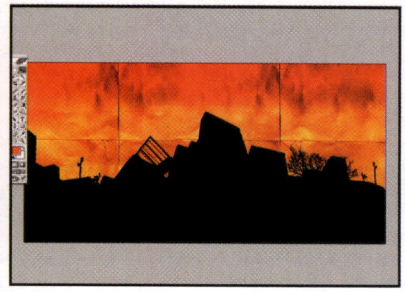
Illustrations

You'll notice in the movie and the AEP file that there are some illustrated characters that aren't included in the tutorial. These can be found in the 'HD skyline proxies.psd' file on the CD and imported into your main comp. Try drawing paths around certain elements of the illustrations and animating them individually to create dynamic animation out of what are essentially just 2D drawings. Try introducing your own hand-drawn characters to give the piece your own voice.

1 The next step is the most laborious. Go to the photos folder on the cover CD and open each document within. You need to create a path around each of these buildings and objects.



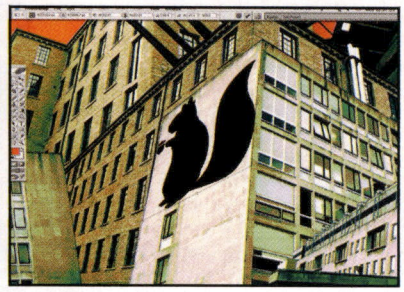
2 Once you've done this, save each image along with its path as a back-up file. In each document you then need to turn the path you've just drawn into a selection and drag each element into the HD Skyline document. Place the buildings where you want them – there's no right or wrong way to do this, just your vision of how it should come together.



3 Once you've done this and named all the layers, duplicate each one and place it beneath its original. Click in the box next to 'lock' in the Layers palette to lock the transparent pixels. Make sure your foreground colour is black and hold down the Alt key and press backspace. Notice that only the cut-out shape is filled with black rather than the entire layer. Repeat this for each building ensuring that each black version sits behind the photographic version.

4 In the next stage, you need to place the Design Is Kinky logo on some of the buildings along with some other text in various places. Download the Sammy logo from **[w]** www.designiskinky.net. Open the logo in *Photoshop* and drag the largest version of Sammy into your HD Skyline document.

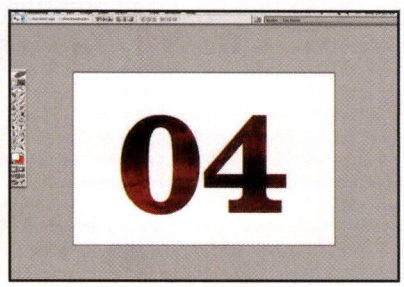
5 Using the Free Transform tool, scale Sammy onto a layer above hri_2. You can roughly judge the correct perspective by using the side of the building and the windows as a guide. Hit Enter and then scale the logo to the size you feel works best. Do the same with a rasterised text layer reading 'April 2004'. Fill both these layers with solid black. We've chosen the font New Clarendon MT so that the text falls in line with the Semi Permanent brand.



6 Duplicate both the Sammy layer and the text layer and inverse both layers (Select>Inverse) so that they're now both white. Place these layers behind the black ones and then repeat steps 4-6 for various buildings so that Sammy is all over the place. You could even make the logos and text look like they've been sprayed on with spray paint.

7 To further emphasise the conference, you can create some neon signs showing the conference name, the year and the organisers. Using New Clarendon MT, type SEMI, KINKY and 04 on separate layers in red (R:178, G:6, B:6) and then rasterise.

8 Drag texture.jpg into your document and paste it inside the KINKY text by placing it over the text layer and pressing Ctrl/Cmnd+G. Experiment with the transfer mode then use your Dodge and Burn tools to burn out parts of the texture until you're happy with the shading and so on. Merge the text with the texture and duplicate the layer.

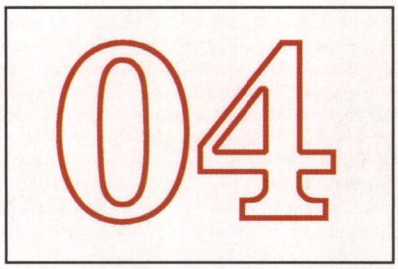


9 Next, you need to make the merged text/texture layer a selection and then choose Select >Modify>Contract. Play around with the amount of pixels until you're happy with a slightly inset selection.

Rebranding the city continued...

Effects

Try different effects in *After Effects* by pre-composing the entire composition and overlaying various comps on each other, and try masking off areas and moving the entire composition to create visual stutters. Take a look at the AEP file included on the CD for an example of this. Try different transfer modes on various layers but remember that the more complex you make the project, the longer the render times.



10 Delete the selection from the duplicated layer, which should be sitting above the original layer. You should be left with a fine outline of the textured text.

11 Using your layer styles, give the outline layer a bevel and emboss. Play with the settings and experiment until you get a hard chiselled look that stands out from the layer below it.

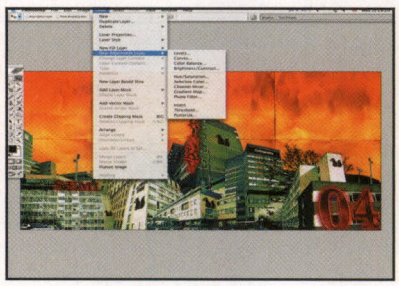
12 Merge the two textured text layers and duplicate it. Lock the transparent pixels on the bottom layer, fill with the same red (R:178, G:6, B:6) and then unlock the transparent pixels and use Gaussian blur to create a glow behind the lettering. Then angle the neon lettering onto the buildings.

Part 3: Additional elements

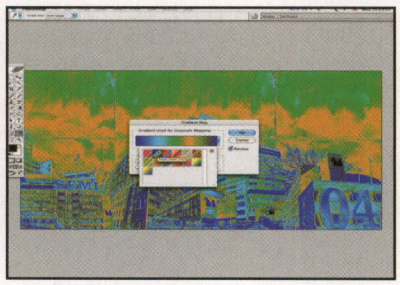
Working with colour tones, darkened corners, titles and credits...

Understanding pixels

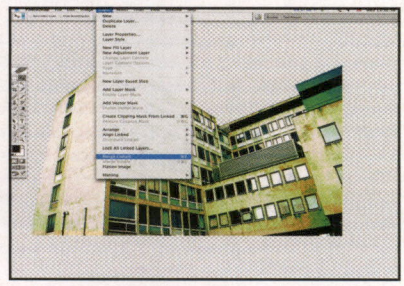
Pixel aspect ratio is a tricky and complicated subject, but, in short, *Photoshop* uses square pixels while video and TV use rectangular pixels. That is why video in *After Effects* always looks slightly compressed horizontally unless you've checked the Pixel Aspect Ratio option, which forces the image to look correct to the eye.



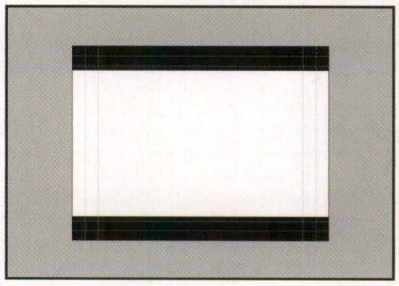
1 Now we're going to grade all the buildings so that they have the same colour tones. We want to give them a cross-processed look, which is a treatment that photographers use in the darkroom. First, create an adjustment layer as the uppermost top layer and choose Gradient Map (Layer>New Adjustment Layer>Gradient Map).



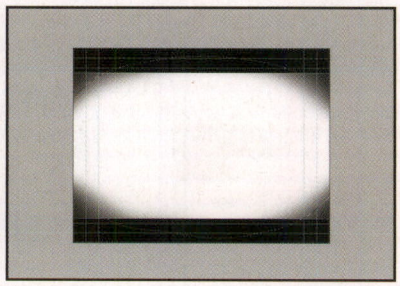
2 Create an adjustment layer as the uppermost top layer and again choose Gradient Map. Select the purple, green and gold from the colour harmonies 2 palette. You can try different colour combinations to achieve different effects.



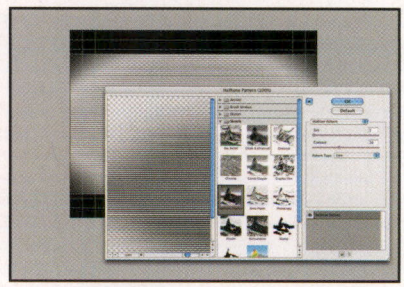
3 Set the Blending mode to Colour and take the Opacity down to around 50 to 60 per cent. Duplicate this gradient layer for each building that you want to grade. Place the gradient layer over the top of each building and merge the two layers.



4 Create a new document of 768x576 pixels at 72dpi. *Photoshop CS* users can take advantage of the preset PAL D1/DV Square pix 768x576. Name the document Semi Permanent. Create some 16:9 ratio borders by measuring 72 pixels from both top and bottom and then fill with black. Name the layer '16:9'.



5 Open a new layer called 'darkened corners'. Using the Elliptical Marquee tool, create an oval shape, central to the document but with the edges bleeding off the left and right-hand sides. Next inverse this selection, feather it around 50 pixels and then fill it with black.

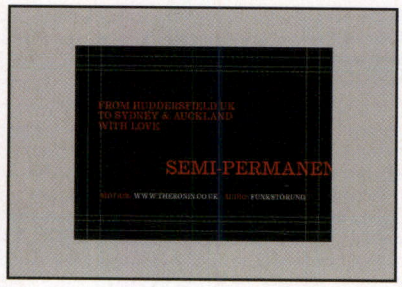


6 Create another layer called 'screen' and by using the selection of the darkened corners layer, fill the screen layer with grey and then use the Filters>Sketch>Halftone pattern to create a screen effect. Use these settings – Size: 1, Contrast: 20, Pattern Type: Line. Set the layer mode to Overlay.

Adjusting layers

Adjustment layers work differently in *Photoshop* than in *After Effects*. In *After Effects* you can apply any filter to an adjustment layer and practically do anything to the layer and it will affect everything below it. Adjustment layers in *Photoshop* work in the same way, but you can't apply any filters because there's only a set amount of adjustment layers available in the program.

7 You now need to create some brief titles and credits within the same document. To ensure the titles stay within your 'TV safe' region, activate the guides.

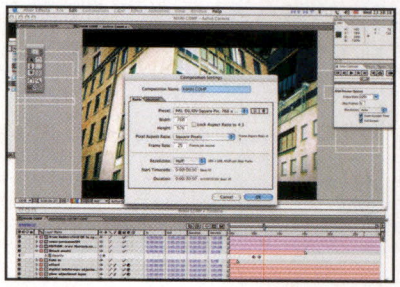


8 As the idea for the motion of the titles involves the titles coming in from the sides as three separate pieces of text, we need to individually create each of these sections on its own respective layers.

9 We use New Clarendon MT for the titles to fall in line with the Semi Permanent brand and the previous text elements, but you can use whatever font you like and input your own credits. Make sure all your text sits within the inner guidelines to ensure readability on a wider range of televisions.

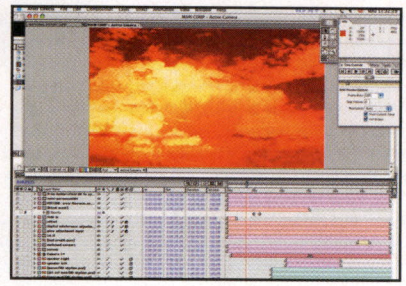
Part 4: Bringing your city to life

With your composition now complete, you can animate it in *After Effects*...

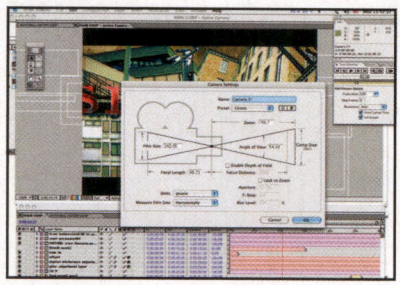


1 Launch *After Effects* and import both the HD Skyline and Semi Permanent PSDs as compositions. Change the settings of the HD Skyline composition to 768x576.

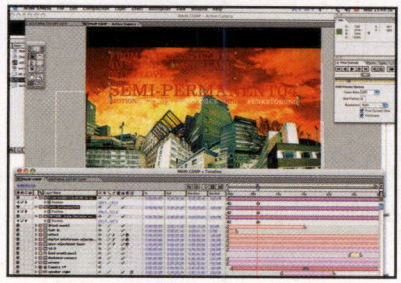
2 Copy all Semi Permanent layers into the HD Skyline composition ensuring you've set position keyframes on each layer so that everything stays in the same place. Also make sure that these are the top layers.



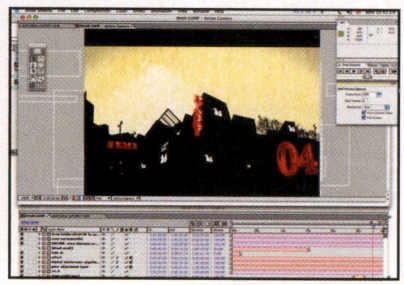
3 Go to **[w]** www.digitalvision.com and search for then download some timelapse cloud comps. Place these on top of the background layer and below the orange layer. Set the transfer mode of orange to colour. Ensure the entire timeline has some sky movement.



4 Create a new camera (Layer>New>Camera) and leave all settings at the 35mm preset. Ensure that the camera layer sits below all layers from the semi permanent psd but above all layers from the HD Skyline psd. Activate the 3D layer option for all layers below the camera except for the cloud movies.



5 Animate your title text so that each piece of text comes in from off screen and centres in the middle of the screen, so that it's placed exactly as it looks in *Photoshop*.



6 You can now animate your camera. Try different speeds and different angles so that you get a feel for the camera flying around the landscape shooting from one spot to another. Keep the pace up and the timeline fairly short and you can create a pretty convincing fake environment. ca-p

Illustration by Paul Price. Contact via [w] www.debutart.com

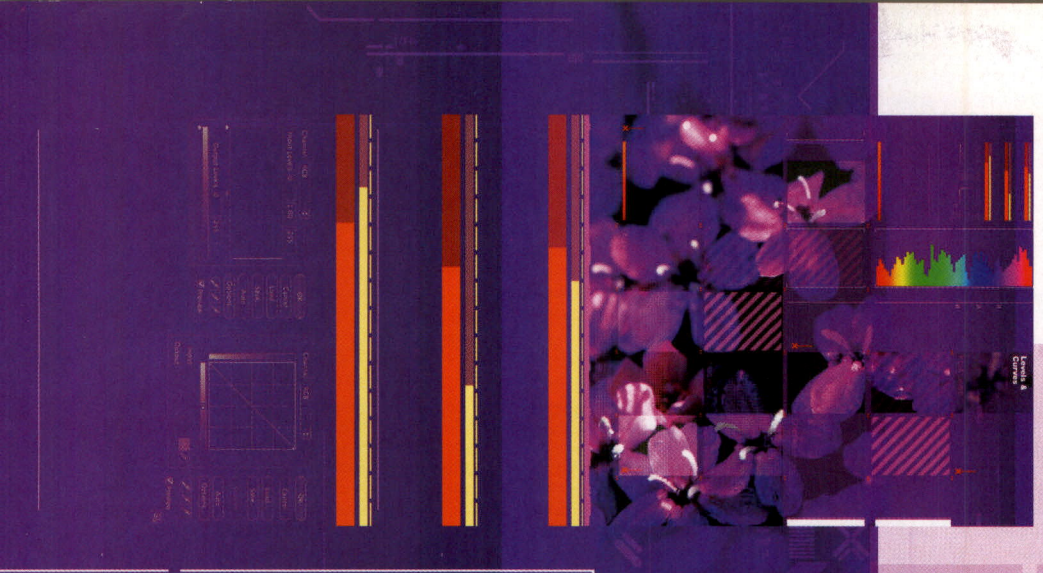
Channels. RGB // CYMK

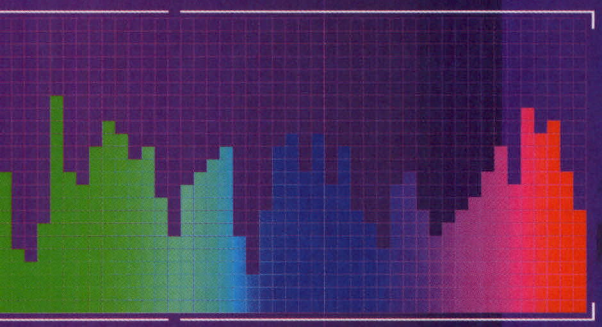
Levels. 0/1.00/255

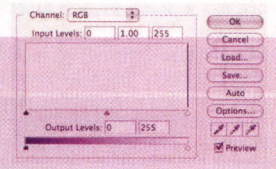
Levels. 0/1.00/255

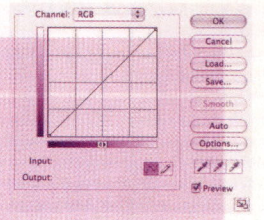
Curves

Channels. RGB // CYMK









Levels and Curves uncovered

Discover how to use two of *Photoshop's* most powerful image-adjustment features to improve the tone of your photographs...

If you've been using the Brightness and Contrast adjustments in *Photoshop* to perk up your photos, stop now. You should be moving up a gear and getting to grips with Levels and Curves. These two methods of tonal adjustment take the Brightness/Contrast control to a new level. With Levels and Curves you can adjust the tonal range, tweak the gamma, precisely control colour or send it flying.

In this tutorial, we'll explain how you can read the tonal values of a photo using the Histogram. We'll help you avoid clipping photos and losing valuable detail in the highlights or shadows. You'll find out how to use Adjustment Curves and masks to adjust tone locally and you'll have some fun recreating film processing effects to add some creative streak to your fashion shots. We'll also help you to rescue a photo, so the next time you're given a challenging job you'll be able to take it on with confidence.

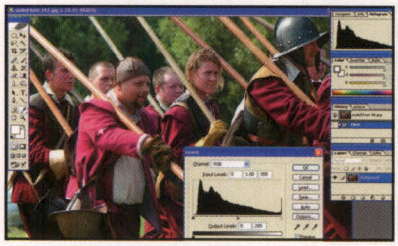
Expertise provided by Peter Bargh, Editor of **[w]** www.ephotozine.com – one of the UK's leading online photography magazine. He's also author of the best-selling book *Photoshop CS A to Z* and *Teach Yourself Digital Photography.*

Part 1: The Histogram

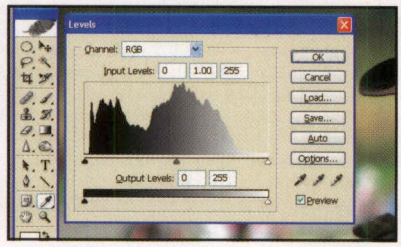
Learning to read the Levels Histogram will help you to visualise tones...

Info palette

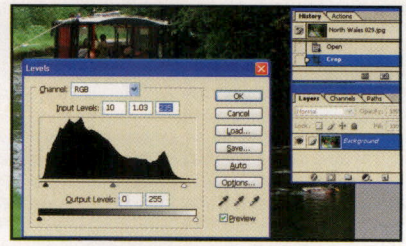
When making adjustments using Levels or Curves it helps if you have the Info palette open so you can check exact colour values. The shortcut key F8 opens and closes this. The Colour Sampler tool enables you to add up to four fixed reference points on the image which are then displayed in the info palette with before-and-after adjustment values. Ensure that the sampler is set to 3x3 pixels for the best sampling.



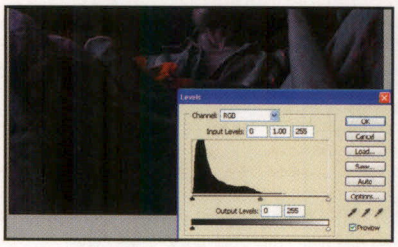
1 Before making any corrections it's worth a quick refresher on the Histogram. When you open the Levels dialog, you're presented with an area graph with X and Y axes. This graph, known as a Histogram, shows the tonal values of your photograph, and in *Photoshop CS* this can also be viewed as a dialog box by going to Window>Histogram.



2 The X axis displays 256 tones of grey, starting from 0 at the left-hand side, which represents black or shadows, to 255 at the right-hand side, which is white/highlights. Everything in between is a shade of grey. The Y axis is a measure of the number of pixels displayed from the X axis' tonal value. We've shaded the graph in the screenshot so you can see how this works.

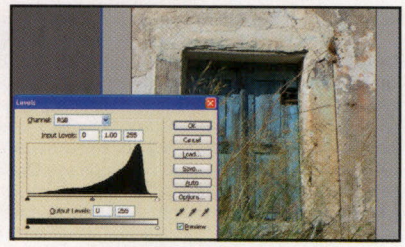


3 Below the graph are three triangular markers, which are used to adjust the tonal values of the photograph. The left-hand one is black and adjusts shadows, the middle one is grey and adjusts mid-tones and the right-hand one is white and adjusts highlights. You can click on each of these and drag to adjust tones. If you tick the Preview box, you'll see the tones change in real time on your photograph.



4 A peak on the extreme left with minimal values on the right indicates either underexposure or, in this example, a dark subject with just a few highlights. To lighten the photograph, you can drag the white triangle, below the graph, to the left. You should take care not to drag too far or you'll clip tones and lose detail in the highlights.

5 A photograph with a smooth tonal range produces a Histogram with peaks distributed evenly across the range, giving good tonal values in all areas. This type of picture is what most average scene shots will look like. You don't need to do much to the Levels to make this a perfect photo. Just a slight adjustment inwards for both the highlight and shadow triangles is often all that's necessary.

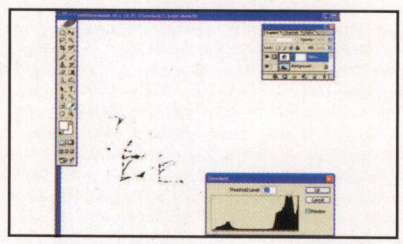


6 A photo that's overexposed or with a predominant highlight area, in this case the whitewashed wall, creates a Histogram with the peak on the right. Here, you would drag the black triangle across to the right to ensure you have enough contrast. Take care not to move it too far across or you'll lose detail in the shadow areas, known as clipping.

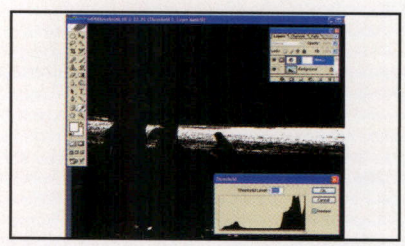
Part 2: Viewing extremes

Use the Threshold Adjustment to view the extreme highlights and shadows...

1 We sometimes need to know where the darkest and lightest points are in a photograph, and we can use the Threshold option to indicate these points. Here, the highlight will be either part of the snow near the horizon or the edge of the clouds, but which is the lightest? Also, are the shadows of the passengers or the dense parts of the Skidoo darker? Check using adjustments.



2 With the image open go to Layer>New Adjustment Layer>Threshold and click OK. This creates a new layer and brings up an Adjustments dialog. The preview now appears with black or white tones. Drag the triangular pointer to the left to reduce the black tones until just a few can be seen. These are the darkest points of the photo. Click OK and use the Colour Sample tool to sample two points.



3 Open the Adjustments dialog again. Now drag the triangular pointer to the right to reduce the white tones until just a few can be seen. These are the lightest points of the photo. You'll notice that they can't be reduced to a minimum, because the exposure is poor and the highlights are clipped. Click OK and use the Colour Sample tool to sample two new points. These highlight and shadow points can now be adjusted while watching the info palette.

Reset values

If you make some changes to the tonal values in either Levels or Curves, you can reset them without having to cancel and open up the dialog box again. Simply hold down the Alt key and you'll see the Cancel button change to Reset. Click on this while still holding the Alt key and the values will reset so you can try something else.

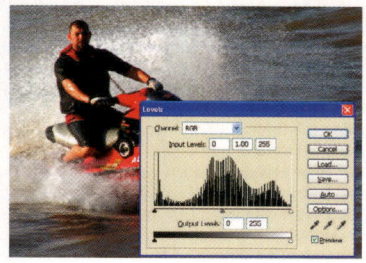
Editing in 16-bit

How to ensure a smooth gradation of tones in your images...

When you make any adjustments to Levels or Curves and then go back to view the results, you might notice that the graph, which was originally a solid black lump, now has narrow vertical lines at various points across the scale. Often referred to as a comb because of the teeth-like view, these spikes and gaps signify that the adjustment you made has removed tones from the photograph.

You might not be able to detect any problem in the photograph when viewing it on your computer monitor, but the graph is sending out warning signs. When printed there may be areas of tone that have banded together, so what was a smooth gradation of tones becomes a visible step of colour.

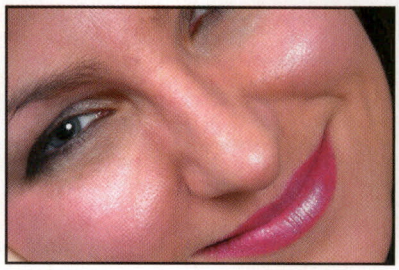
There's often not a lot you can do if you've scanned or captured using 8-bit colour, but if your camera or scanner allows 16-bit capture, it's wise to use this increased colour range. Then when you edit the picture you can be reassured that there will be fewer teeth in the comb!



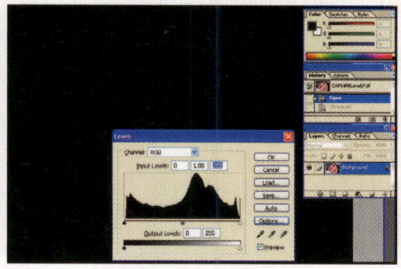
This high contrast scene was captured in 8-bit colour. After editing the Curve, the comb effect is high, with valuable detail lost across the tonal range.

Part 3: Using Levels

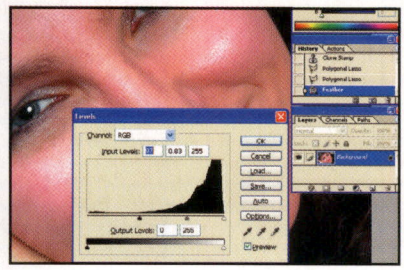
How to make a flash-lit portrait look more natural with Levels...



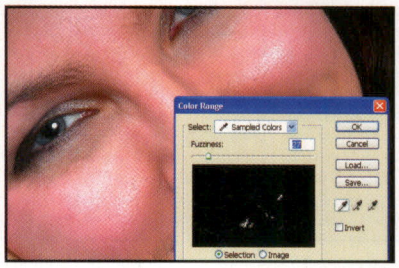
1 Flash portraits often have a cold, hard appearance when the light is pointed directly at the subject, even when studio light has been used. Flash also creates highlights, typically on the cheeks, nose, forehead and lips. Fortunately the model's make-up has prevented heavy highlights, but the digital camera used has created slightly posterised tones, so there's some work needs to be done using Levels before the photo can be presented to the model.



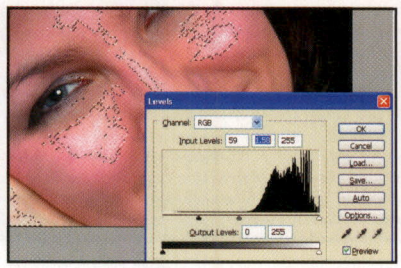
2 With the Levels dialog box open, hold down the Alt key and click on the white triangle, dragging it very slightly to the left. You'll see the image change to a threshold view and it'll show just the lightest part of the photograph as white. It highlights that the triangle-shaped area behind the fingers, on the left, has no detail whatsoever. This is responsible for the graph going off the edge of the scale and there's nothing we can do to get any detail in there – a patch job is required.



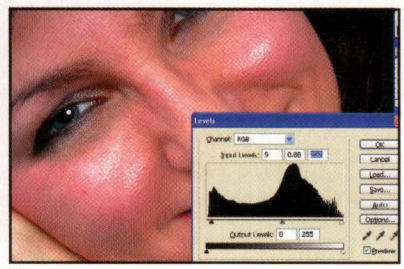
3 Use the Clone tool and fill the areas with some hair from the other side of the model's head. Now you just need to reduce the brightness of the hand by making a selection around it using the Freehand Lasso and feathering the selection by 50 pixels. Open Levels and drag the shadow and mid-tones sliders to the right to darken the hand.



4 To tone down the highlights on the skin go to Select>Colour range, set Sampled Colours and click on one of the cheek highlights with the Fuzziness set to around 30. Click OK and feather the selection by about 5 pixels.



5 Open Levels and move the shadow slider towards the centre and bring the mid-tone slider back towards the left. Make sure the tones don't go darker than the surrounding, unselected tones. Also watch out for posterisation. Click OK and deselect. Use the Ctrl+Z option to view the corrected and uncorrected state to see if you've done a good job. If not, go back and try again. You may have to repeat this step on the stronger areas.



6 You could use the previous stage to modify areas around the photo, such as adjusting the lip brightness or eyes, before giving a tweak to the overall levels with a slight contrast increase to the mid-tones. Drag the mid-tone slider to the right – taking the value from 100 to around 85 perks up the contrast just enough. You could also bring in the highlight and shadow markers slightly.

Part 4: Curves and poor exposure

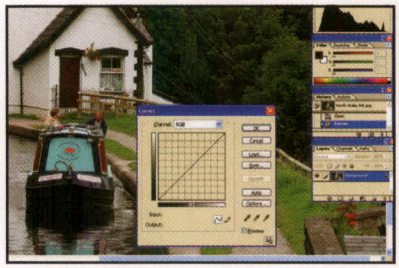
Curves take Levels adjustment to a new dimension...

Adjustment Layers

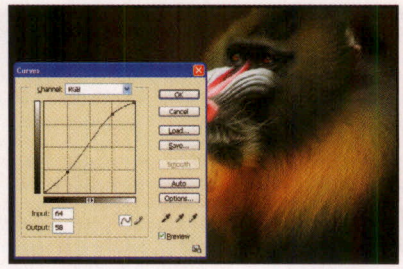
When working with Layers or Curves it's good practice to work on a separate layer so any changes you make to the tones can be adjusted later without affecting any other editing you've done. These Adjustment Layers are, not surprisingly, found in the Layer menu. They enable changes to be made to the layers below, but those changes are held within the Adjustment Layer. If you delete the Layer the changes are also deleted. You can use a mask on these layers to localise the adjustments you make.

Moving points

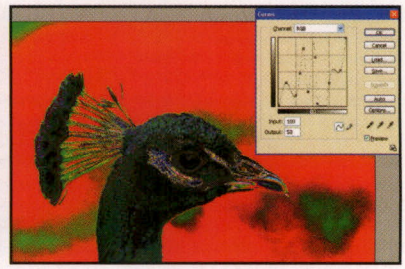
You can use the arrow direction keys to move the points on a curve to precise positions. Click on the curve near the area you want to adjust and then use the left and right keys to set the input value and the up and down arrow keys to adjust the output value.



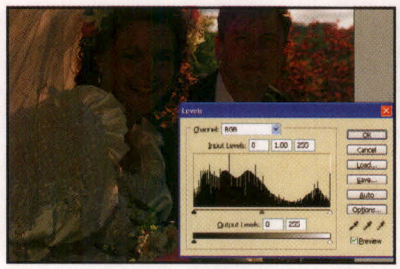
1 The Curves Adjustment gives you far more control to fine-tune your photograph's tonal range. Instead of having an x/y graph with just highlights, shadows and mid-tones, you can adjust any one of the 255 points across the tonal scale. Curves can be used to increase or decrease contrast and adjust colour to a minute degree. You can hold down on the Alt key and click in the centre to alter the grid size.



2 The line that you see running diagonally at an angle of 45 degrees is like the above view of the Levels graph. Bottom left is the shadows, top right is the highlights. You adjust the curve by placing an anchor on it and dragging it up, down, left or right. If you drag the curve above or left of its current position, the tones will lighten; drag below or right and they darken. The S curve, shown here, is the most commonly used to correct an image.

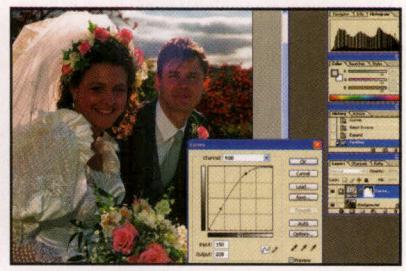


3 You can adjust the group of RGB or CMYK colour channels in one go or select the individual channel and edit it to introduce or remove a colour cast. When preparing graphics for press you'd be better off selecting the CMYK option, but when editing for web or inkjet print you should choose RGB. You can edit up to 16 points on a curve. Be careful though, introducing too many points can create either posterised or weird colours.



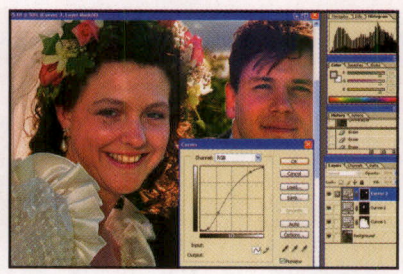
4 To illustrate the power of Curves, here's a badly exposed negative that's been scanned in on auto. This is the type of image you may have to deal with from time to time. Fill-in flash was used, but the ratio wasn't right so the background is exposed fairly well but the foreground couple are dark. You can see from the Levels Histogram that there's clipping of the highlights and shadows and some missed tones throughout the range.

5 First make a selection of the background area. We used the Lasso and feathered the selection by 5. Apart from the burnt-out clouds, the background has the right sort of detail, but it needs a tweak to boost the contrast. For the clouds, selection 1, we pulled the curve down from 235 to 223 to darken them. We then made a minimal S curve within selection 2, the garden with clouds, to increase the overall contrast.



6 Next we need to fix the lack of exposure – the bride's veil is too bright, and the groom's suit almost black. If the background is still selected, go to Select>Inverse, then Select>Expand 2 pixels and Feather by 2 to prevent a defined edge. We'll also create a Curves Adjustment layer and work on that. Notice the Layers palette automatically creates a mask based on the selection. Now drag the curve out from two marker points to make the shot brighter.

7 The groom's hair is now too light and the white veil is overexposed. The good thing about using an Adjustment Layer with a mask is that you can paint back some of the original uncorrected curve using the mask. Click on the mask icon in the Layers palette and brush over the hair with the Eraser set to between 5 and 10 per cent. This creates a grey area on the mask and allows a small percentage of the tone to return. Do the same with the veil.



8 The bride and groom's faces still need some adjustments. Make a selection around each face individually, feathering by 6 or so pixels, and create a Curves Adjustment layer for each. Then adjust the curve on each layer until you're happy with the tone. If you want to go back to a previous Adjustment Layer, you can click on the icon and the Adjustment dialog pops up again with settings as they were left. Once you're totally satisfied, flatten the image.

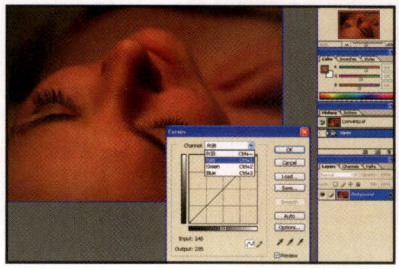
9 All that's left to do now is remove the slight colour cast using the individual channels' Curves. With red selected, move the curve up a value of 4 or 5 to introduce a very small amount of red. This minor adjustment is enough to take out a touch of coldness that is most noticeable in the whites. You may want to open the blue channel and pull the curve down a little too. The photo may still have faults, but it's a vast improvement from when we started.

Part 5: Natural skin

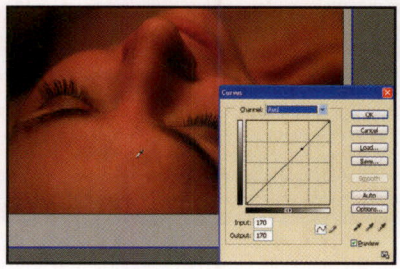
Adjust the Curves of individual channels to correct colour precisely...

Working with CMYK

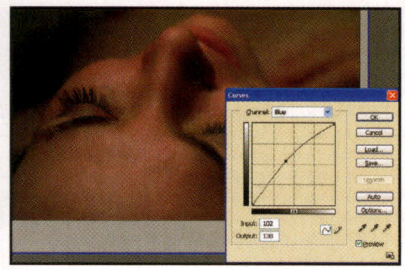
If you're preparing images for press and prefer to work in CMYK, the method of correcting images is the same, but you have four colour channels to choose to adjust. To correct skin-tones adjust the yellow and magenta curves. pulling the yellow curve up and magenta down to increase a sun tanned look. Pull in the opposite direction to reduce a golden glow.



1 This photograph was taken in artificial light using a digital camera. The camera has an auto white balance setting, but it's not worked well enough and the skin has an overly sun tanned look. This can be corrected accurately using individual colour channels in the Curves dialog box.



2 To change the colour of skin you need to adjust the red and blue channels – we'll start on red. Use the Eyedropper tool to sample the girl's forehead. Hold the Ctrl key as you click on a suitable point. Notice how an anchor point now appears on the curve – input point 170 on this example. Drag the curve downwards to reduce the red.



3 Now the picture has a cyan cast and needs some blue taking away. So you need to select the blue channel and drag the curve upwards. Notice how the skin colour now becomes more realistic. Of course, there are times when you may prefer a healthier glow and, in such cases, you can then drag each curve in the opposite direction.

Part 6: Cross processing

Adjust individual colour channels to recreate film-style cross-processing effects...

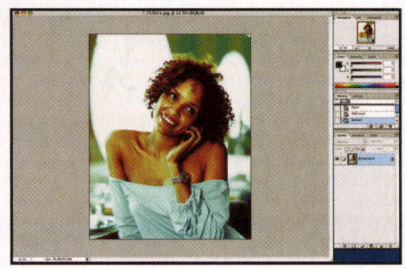
1 A technique that's been used by fashion photographers for years is cross processing, where a film of one type is processed using the wrong chemicals to distort colours. The effect can be recreated using Curves to pull the colours of each channel.

2 Begin by lightening the image. Open the Curves dialog and, with the RGB channel selected, click on the curve in three places, as indicated in the thumbnail, moving left or right on each point until input values are 39, 121 and 222. Then drag each of these points up or down so that the output values are changed to 53, 172 and 244 respectively.

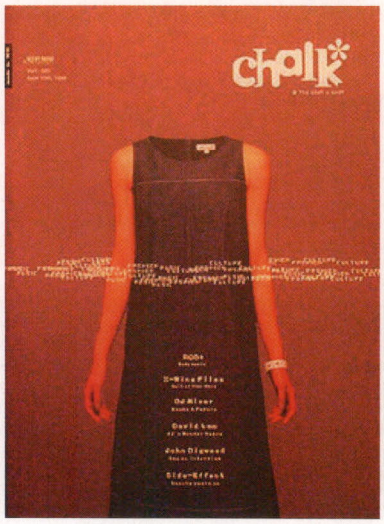
3 Now select the red channel and make an S-shaped curve using two points on the curve with the input values of 52 and 197. Change these to 14 and 209. This makes the background go blue and the highlights take on a light-red tone.

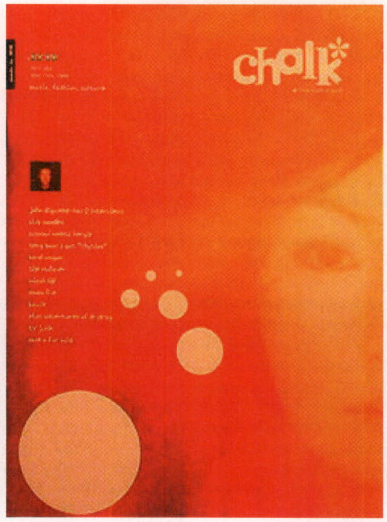
4 Next, you need to reduce the red that was created with adjustments made to the red channel and also start to bring the background to the characteristic green of cross-processed colours. Adjusting the green channel to lighten the mid-tones will bring out the green in the background and further reduce the red in the skin-tones. Place two points at 30 and 156 and adjust so the output is 27 and 168.

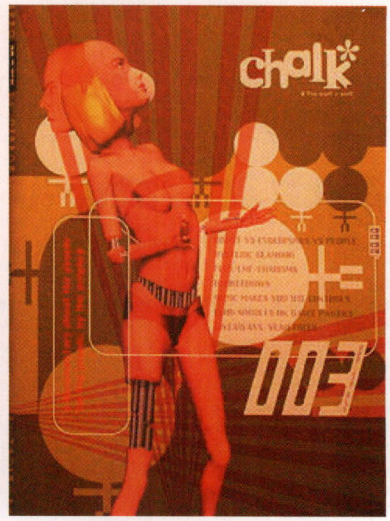
5 The last channel is blue and an S curve created here makes the skin-tones a creamy yellow colour with green shadows, which is perfect cross-processing colouring. Place two points on the curve at 27 and 219 and adjust so the output is 46 and 190.

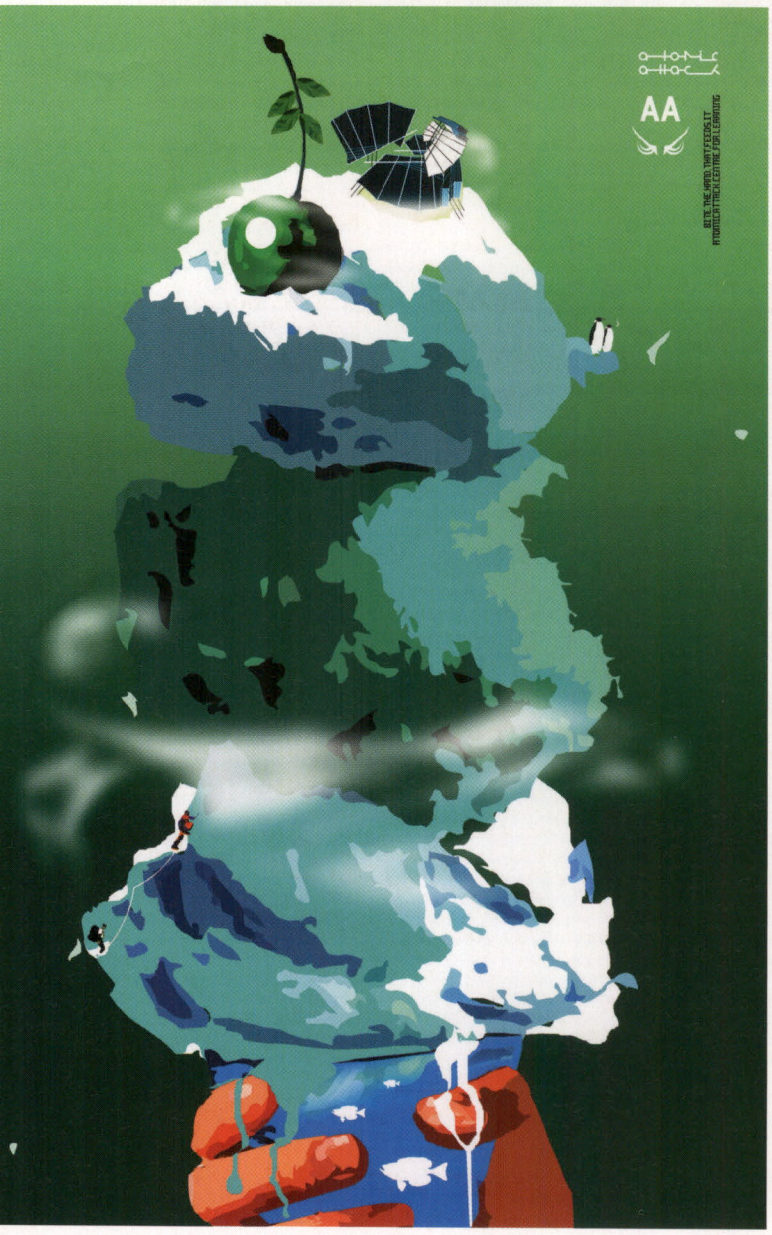


6 Adjusting Curves to obtain cross-processing effects can be hit and miss, with no two pictures reacting the same way. That said, once you're happy with a result you can save it as a .acv file (we named this one CrossProc) and then apply it to any image by loading the saved file. You can then tweak the curve if it doesn't work on the selected image. ca-p









atomicattack

"It's boring pretending you're a designer if you have nothing to say." atomicattack goes on the offensive...

Hong Kong based designer Calvin Ho has something to say: "That's my style," he explains, "there's an underlying message that comes with the work; it's not just a pretty picture... design is intention."

This approach to design has made him a regular fixture with the likes of *IdN*, *Shift Japan* and the wonderful *Chalk* magazine. "I always try and develop one style, smile and move on to something completely different," says Calvin. atomicattack is a moving target.

Calvin started out studying fine art in Sydney, but something went wrong: "I was a keen young kid and looked forward to visiting the final year graduate exhibition." So far so good. "But to my dismay," he continues, "I wasn't inspired by their work. I got scared and ditched this and started to rethink what I would do."

These ruminations led Calvin to design in the late 1980s, a time when the field was undergoing a revolution of its own. Still, the digital age of design lay in the future for Calvin: "I never touched a computer until my second job. I was a paste-up artist at a local yellow pages doing ads in Sydney."

Not a job that anyone dreams of doing, but Calvin was determined to follow his star: "Even with the crappy work that I had to produce, I would always carry around a sketchbook to doodle in and dreamt about doing fashion magazine layouts, photography and illustration." This dogged determinism was to pay off.

Rebellious streak

When his parents returned to Hong Kong in 1992 Calvin decided to join them, quickly establishing himself as a wilfully minded Creative Director: "Nearly every boss would label me as the 'rebel' since I always wanted to challenge the norm, but being in the corporate field, it was a tough battle."

It seems that all is not well with the design establishment in Hong Kong: "It's very tough to be creative and get away with it in Hong Kong," says Calvin. "Clients like you if you're dirt cheap and you can copy other people's work."

This state of affairs didn't suit Calvin, who was keen to make a mark of his own: "It's embarrassing that designers in Hong Kong copy without any guilt... and the most tragic thing is that they blame the client saying it's what they want, that it's not their fault." atomicattack was born in 1996 and Calvin was determined to be original.

Creative attack!

While he says he's been lucky with the people he's worked with in Hong Kong, notably as Creative Director on *Chalk* magazine, Calvin has looked further afield for clients willing to give his diverting brand of cut-up imagery a fair shout. "I found that by concentrating on Japan, US, UK and Europe, clients are more open minded and they almost beg for originality."

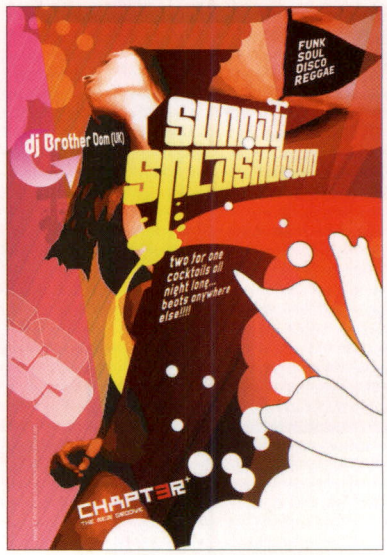
And when he's working, the primary resource isn't digital, it's fully analog. "It's my brain," he explains. "The software would be all those years I've developed what is me. To produce work for you, it's 30 years of developing the soul and mind, and a focused attitude."

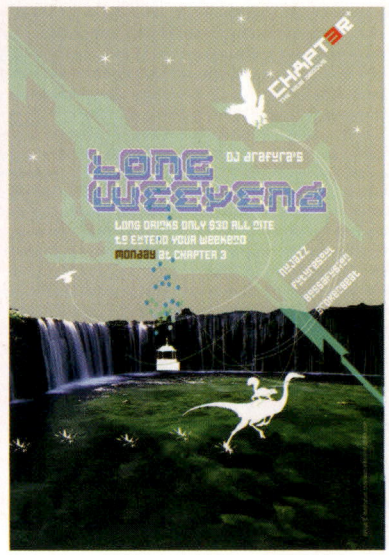
The other great advantage is that, "Updates come every day and they're free.

Far left: Issues 1, 2 and 3 of *Chalk* magazine. atomicattack released seven issues in 1999-2000. Calvin says the mag enabled him to vent his frustration with life in Hong Kong.

Above and left: "Nearly every boss would label me as a rebel," says Calvin, explaining the reaction to his work in Hong Kong in the early 90s.

Below: atomicattack was commissioned to help promote the Chapter 3 club in Hong Kong. The aim was, "To place Chapter 3 as the coolest Hong Kong club for music and people."





Above: Two results of a collaboration between atomicattack and photographer Ann Woo. "I was presented with a set of random photos," says Calvin. "And I had to come up with a narrative collage."

Right: This is an image from Calvin's show reel, a work in progress. Asked about his style, Calvin says he always tries to be original, never staying in one spot too long.

Bottom: Shift.jp.org commissioned a series of images for a fashion show by HK fashion label RCB. "We went over to Sapporo," says Calvin, "and these were shown as huge backdrops for the show. It was great fun."

I read books on human psychology and it helps in understanding how to make my work react to the viewer." This is never more clear than in Calvin's recent collaborations with photographer Ann Woo, which show his collage work in a new light.

Inspiration has to come from somewhere and if you forswear the influence of other designers, where do you look? For openers, he says, "It's hard to explain..." So he elaborates: "Provoking some emotion and attitude towards the project before you start is a great beginning."

Calvin's approach is a kind of free association: "I use music and random references, but never design books, to spark off ideas." He continues: "I have two big speakers in my room and basically they're never off." So he surrounds himself with things that can spark off a chain reaction: "Right now I live and work under one roof. It is so cool. I have wall-to-wall books, magazines, records, CDs, and game consoles." A kind of critical mass effect.

Calvin also DJs at some of the clubs atomicattack produces flyers for, so music is a big part of his life. "Not only do I play music when I design, I have fleeting moments where I just escape from behind a computer to behind the decks." It's moments like these when ideas pop in his head muses Calvin, kind of spoiling the picture by adding: "Beats coming up with ideas while doing a shit." ca-p

To see more of atomicattack's work, visit [w] www.atomicattack.com.

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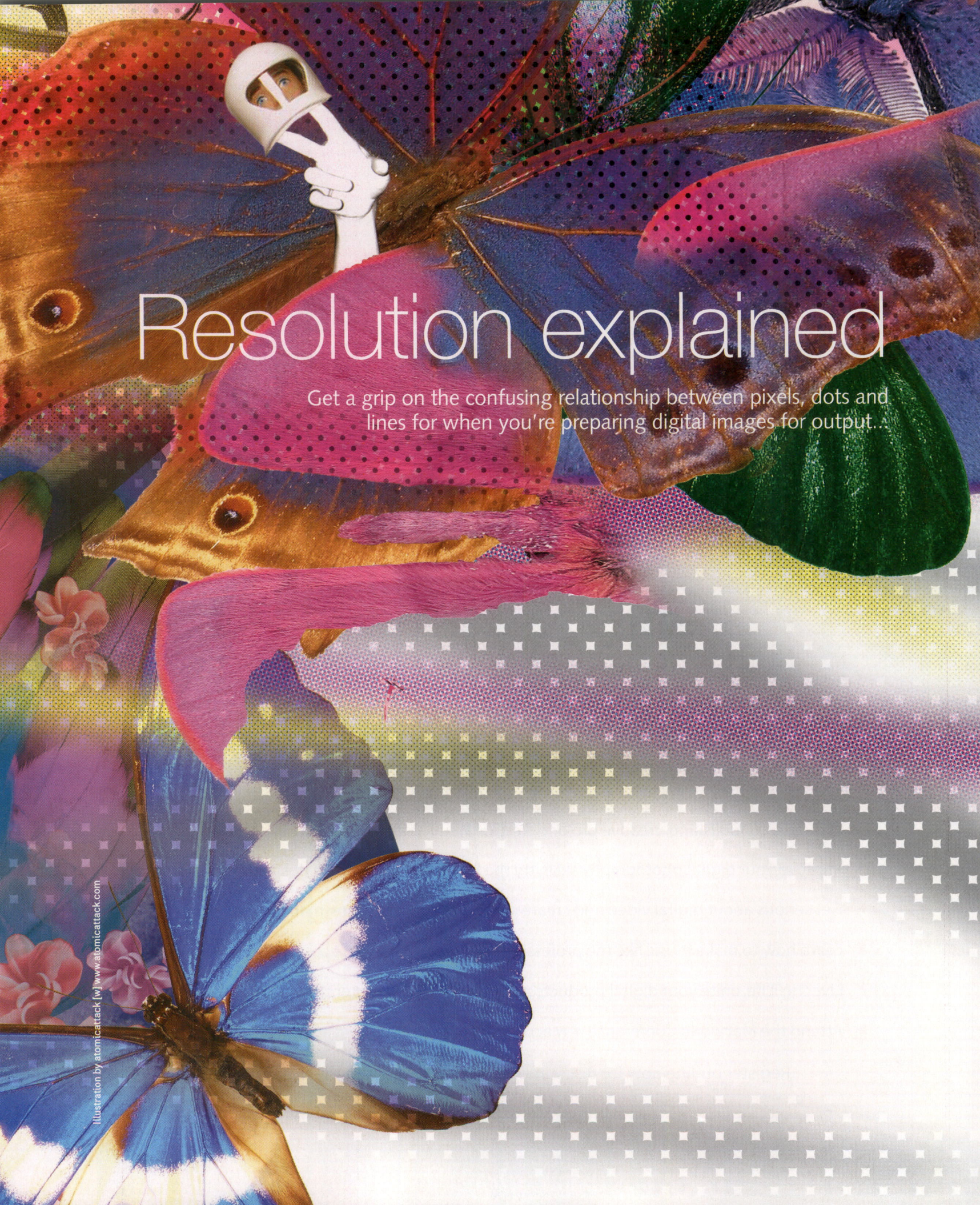
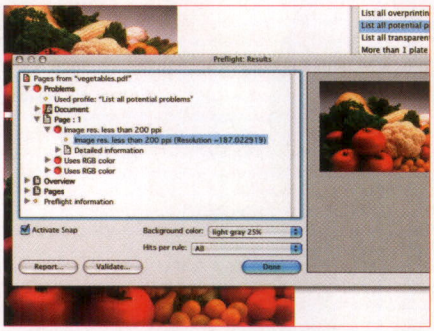


Resolution explained

Get a grip on the confusing relationship between pixels, dots and lines for when you're preparing digital images for output...

Illustration by atomicattack [w] www.atomicattack.com



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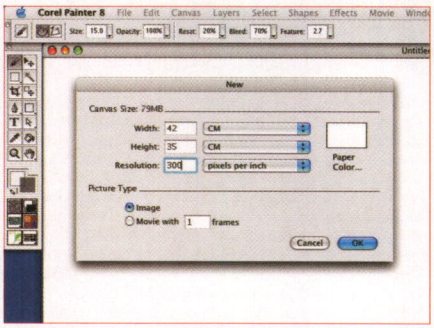

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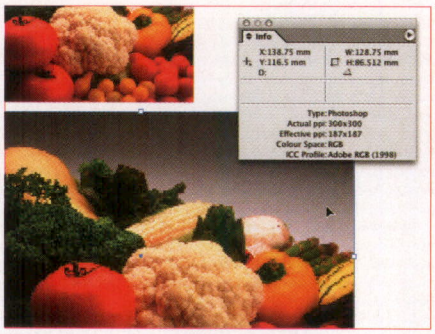


Adobe *InDesign CS* users can check on the effective resolution of scaled images by using the info palette.

How can an image have two resolutions at the same time? Why do images captured at the same resolution sometimes import at different sizes onto a page layout? Why is my bureau telling me my carefully prepared images are now at the wrong resolution? This article is dedicated to anyone who has asked these questions or in other ways struggled with the thorny issue of image resolution.

Pixels vs dots

To put yourself on the right track, you'll find it helpful to distinguish between pixels and dots. Yes, they're both types of dot, but think of pixels as the units which comprise an image in its electronic form – as a file on your computer, displayed on-screen, captured by a scanner or camera, taken from a CD-ROM, and so on. Unlike pixels, which are electronic and digital, dots are things that you print.

The trick, then, is to understand the link between the pixels of a digital image and the dots of the same image when it's printed. The resolution of one does not necessary equate to the other, which is where the confusion begins. When it's explained that the determining factor is a third resolution, that of 'halftone screen', it becomes a bit of a conundrum. Let's try to resolve it.

Three resolutions

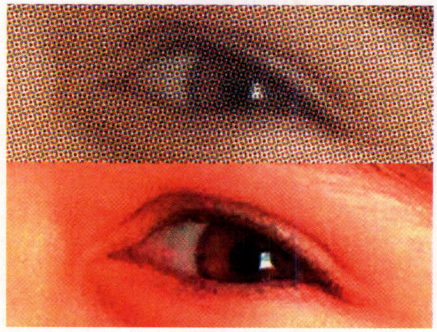
Open an image in *Photoshop* and set the Zoom level to 100 per cent. At this point, every pixel in the digital image occupies a pixel on your computer display. Regardless of the size and resolution of the display, one pixel equals one pixel. Now reduce the Zoom level to 50 per cent. *Photoshop* is no longer showing the original pixels of the image but a 'downsampling' preview based on them. In other words, your display is now reproducing the image using fewer pixels. It works in the same way when you go to print: your original image has its own resolution in pixels, but this will never match the dot resolution of the printer.

The key reason for this mismatch is that computers and printers reproduce images in different ways. All pixels in an image are the same size as each other but have variable digital colour and tone values. Ink, on the other hand, only has one colour and tonal value, so a printer must trick the eye into thinking it can see differences by using variably sized dots. But the dots produced by most printers are fixed at a regular size, just like pixels are. So what a printer does is mimic the effect of a lower resolution, grouping its dots into clumps which appear to the naked eye as larger dots. These clumps can, therefore, be different sizes by being composed of varying numbers of printed dots and thus achieve the illusion.

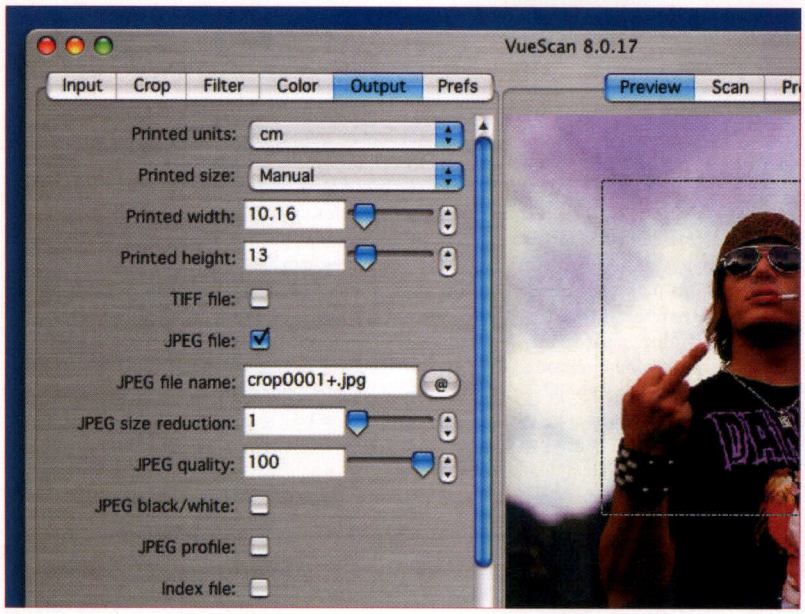
The arrangement of these variably sized clumps of larger, 'fake' dots is known as a halftone screen. It is effectively a third resolution. When you prepare images for printing, it's this halftone screen resolution you need to deal with. Of course, the higher the dot resolution of a printer, the higher a halftone screen resolution it can produce; so the issues are interrelated, but all that matters in practical terms is the latter.

Lines and screens

For an image to print at optimum quality, its resolution value (measured in pixels per inch or 'ppi') should be at least double the halftone screen value (measured in lines per inch or 'lpi') at the physical size at which the image will be printed. For a demonstration of how this works, see 'Which resolution to use?' on page 51. When the original image resolution is at least double the screen value, it means the software in your output device has at least four pixels with which it can calculate each halftone dot. This



Halftone dots in a printed image are much bigger and coarser than the pixels of the original image.



When scanning an image, you don't need to worry about resolution – just enter the required destination print size and output quality (or the halftone screen itself).

ensures that a decent level of colour fidelity and clarity of detail is maintained.

Don't be distracted by the term 'line' when referring to halftone screens. In the pioneering days of halftone print reproduction, a continuous-tone image such as a photograph would be covered with a transparent film inlaid with a mesh of ultra-fine lines and then rephotographed. The result was the same – big, variably sized dots – but the legacy jargon 'line' has stuck. It has the advantage of distinguishing halftone screens both from digital pixels and a printer's dot resolution.

Scanning images

Preparing images at the right resolution is easy when you scan them in. Having selected an area of an image you want to scan, you should enter the size at which you intend to print the image and the appropriate scan resolution for the output device's halftone screen. Professional graphics scanning software makes this easier by enabling you to enter the output size and halftone screen directly, and then calculating the necessary scan resolution for you automatically.

The one potential problem to look out for here is that you may subsequently decide to output that image at a larger size. For example, you might place it on a page layout and then scale up the picture box. But as the picture box grows, the original pixels of the digital image are forced to spread over a larger physical area. In other words, scaling an image changes its

Jargon buster

Terms for understanding resolution...

downsampling
Reducing resolution by replacing groups of adjacent pixels with one pixel whose colour is calculated from those of the pixels it replaces.

dpi
Dots per inch. Literally the maximum number of dots that can be printed in a line one-inch long.

halftone
A printed image composed of a mesh of evenly spaced dots, whose variable size creates the illusion of changes in tone and colour to the naked eye.

halftone screen
The mesh of dots comprising a halftone image.

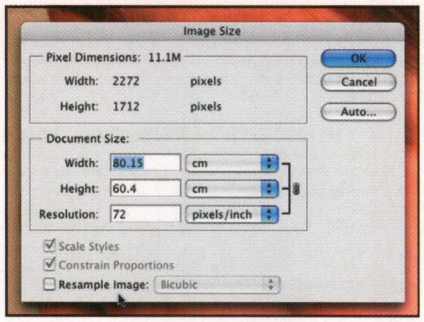
lpi
Lines per inch. The traditional resolution measurement of a halftone screen (= the density of the mesh).

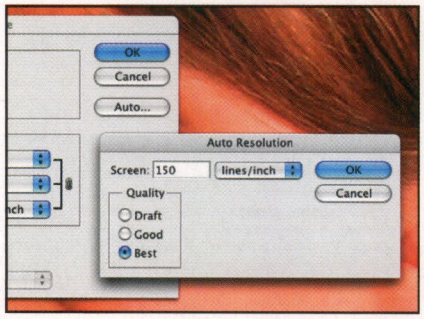
pixel
A contraction of the term 'picture element', a single coloured dot in a digital image.

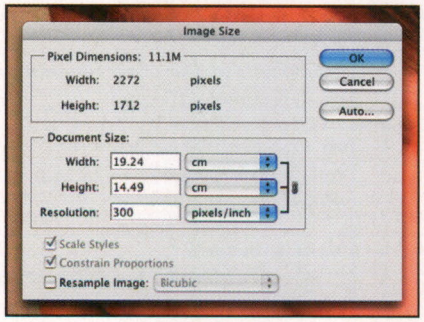
ppi
Pixels per inch. The equivalent of dpi for digital (not printed) images.

resolution-dependent
Composed of a specific number of pixels (for example, a bitmap image).

resolution-independent
Composed of mathematically plotted shapes (for example, a vector graphic).







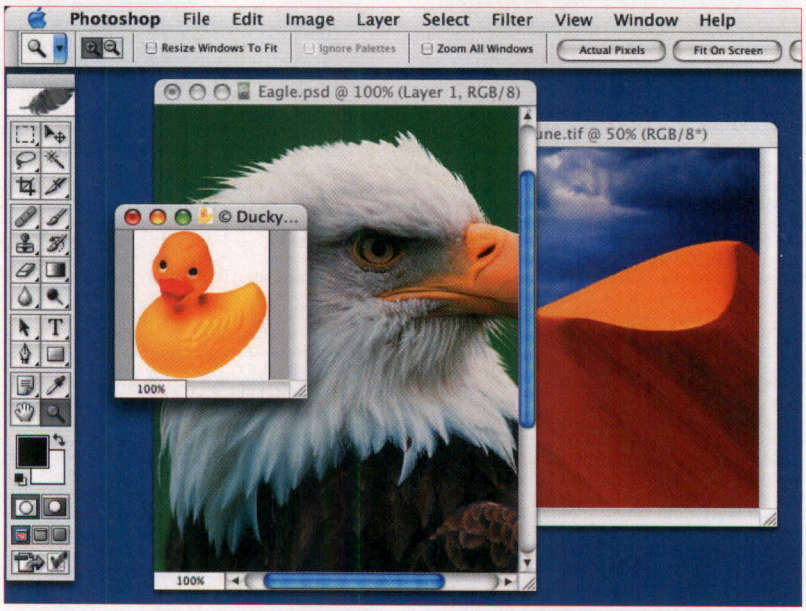
Here's an easy way to sort out resolution in *Photoshop*. Go to Image>Image Size. Untick Resample Image and click on the Auto button. Enter your output halftone screen and click on Best. When you click OK, the necessary resolution and image size is calculated for you.

effective resolution. Reducing size is fine but if you intend increasing it, you ought to rescan the image afresh, entering the new output size with the same halftone screen again.

Fixed resolution images

Images obtained from digital cameras and picture libraries already have a specific resolution. This puts a hard ceiling on how big you can reproduce these images in print without sacrificing visual quality. You can calculate the maximum reproduction size of an image based on its pixel resolution and intended halftone screen using a long formula, but we suggest you use *Photoshop's* Image Size command to do all the calculations for you instead. To use this feature, simply untick the Resample Image option in the Image Size dialog window and enter a minimum 'ppi' resolution value (being double your output halftone screen, remember). *Photoshop* then shows you the maximum reproduction size for that image.

You should now have a much better idea of how to evaluate image resolution for printing. It's all about identifying the output device's halftone screen. Print bureaus now reckon that low image resolution caused by excessive rescaling on page layouts is now the second biggest prepress error after missing fonts. Now you understand what's causing the problem, you can do something about it. ca-p



Part of the resolution problem is that images tend to look fine on screen, but when you print them, all the resolution deficiencies suddenly become obvious.

Which resolution to use?

How to get an image to print at optimum quality...

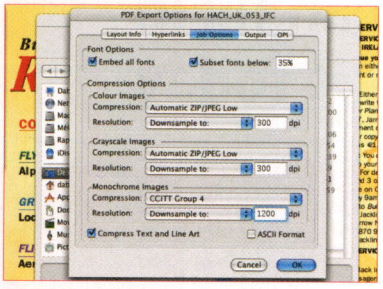
Use this basic formula to calculate the minimum resolution required for images destined for printing:

(halftone screen x 2) x scale = image resolution. Or in other words: (lpi x 2) x % = dpi

As you can see from this formula, it's just a matter of doubling the output device's halftone screen, tempered by whether the image is enlarged or reduced from its original size. But different output devices support different halftone screens. So assuming no rescaling takes place...

Output device	Device resolution	Typical halftone screen for that device	Minimum resolution required for image
Laser printer	300 dpi	60 lpi	120 ppi
	600 dpi	85 lpi	170 ppi
Imagesetter	1200 dpi	120 lpi	240 ppi
	2400 dpi	150 lpi	300 ppi

Inkjet and dye-sublimation printers do not print in halftone dots. For desktop inkjet printers, you should assume a halftone screen of 100 lpi (so the image needs to be 200 dpi). For high-quality colour proofers, assume a halftone screen of 150 lpi (so the image needs to be 300 dpi).



Make sure your downsampling options when exporting to PDF format do not drop the resolution below the minimum requirement.

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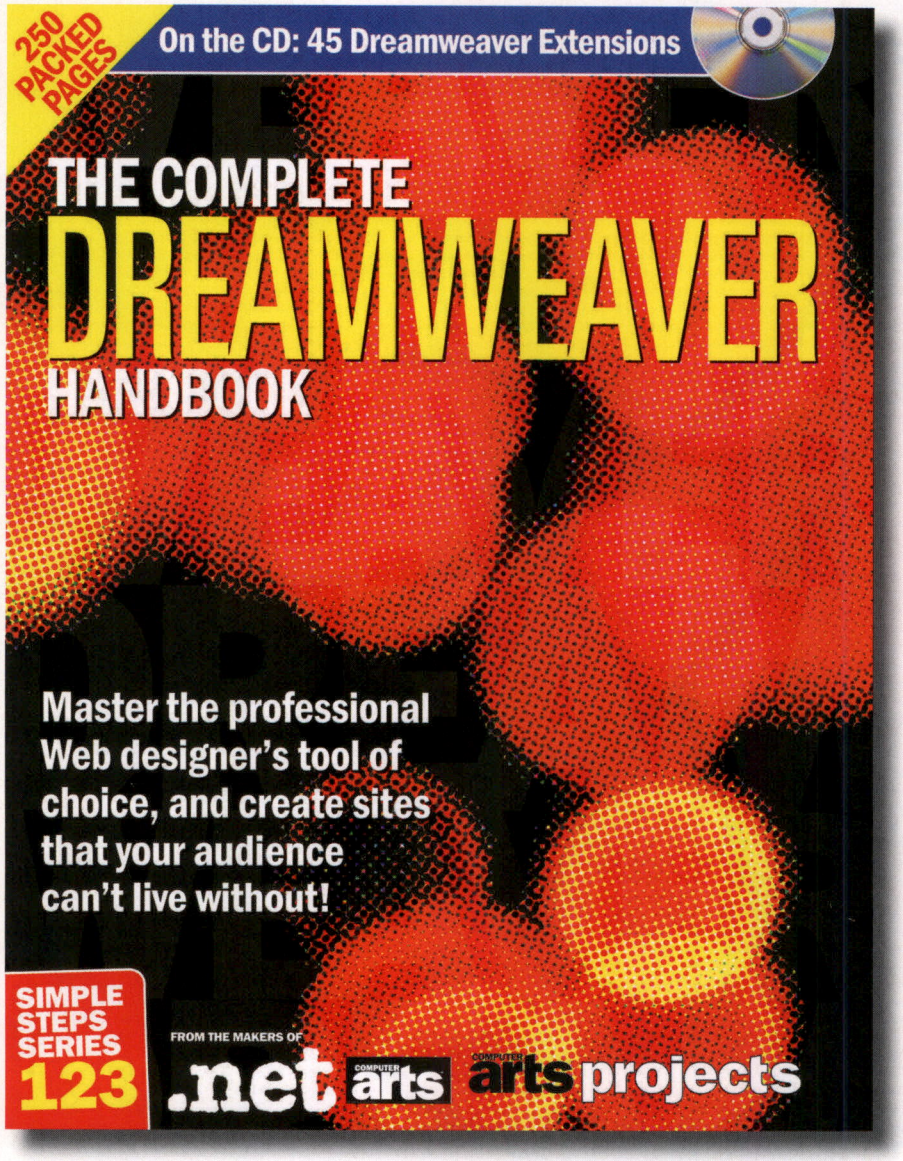
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We uncover some of the most powerful Blending modes in *Photoshop* and demonstrate how you can create a scratchy, dirty illustration in just a few steps...

Blending modes in *Photoshop* have become an important part of the digital design process. *Photoshop CS* has over 23 modes, but how do you decide which ones to use for a particular project? In our example, we show you how just a small number of Blending modes – Multiply and Colour Burn, for example – can make a pretty cool illustration.

In digital compositions it's always difficult to give an illustration a used look that doesn't actually look too digital. But over the next four pages we show you how to add a realistic dirt look to your design. Follow our steps to setting up your document properly, adding scans of adhesive tape, cardboard, hand-drawn typography, scribbles and all kind of stickers to your document, and then choose the right Blending mode for the different layers. See also how easy it is to reduce the white background from line-art scans by adding a Blending mode rather than using the Magic Wand tool.

All the components needed to complete this tutorial can be found on this month's cover CD in the Software\Tutorials\Tutorial files\Tutorial files\All\Blending modes folder.

Expertise and illustration provided by Thomas Schostok at **[w]** www.ths.nu.

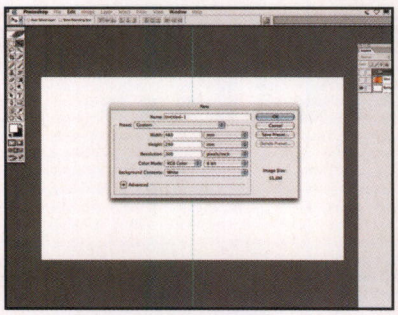
{ths}

Part 1: Setting up

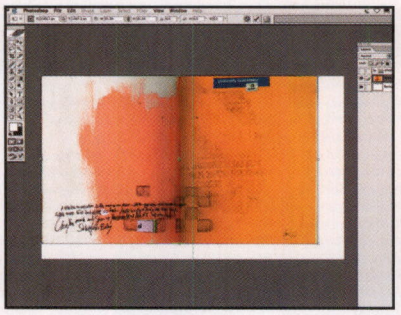
Begin by setting up your document in *Photoshop CS*...

Layer sets

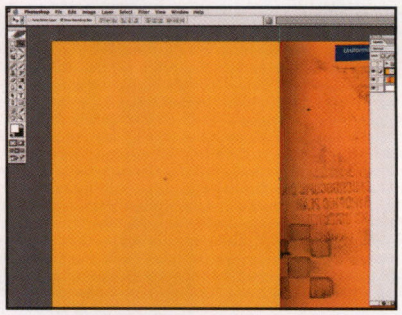
It's always a good idea to link different layers that belong together into a layer set. You can do this easily by linking the layers and selecting 'New Set from Linked...' in the Layers palette. This will make your overall workflow easier.



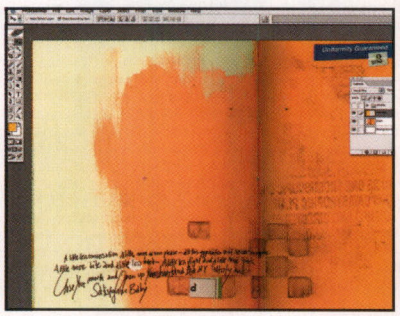
1 To create a double-page spread in *Photoshop CS*, set up a new document (File>New) of 480x290 mm. Place a guideline in the centre of the document so you know where the pages will be folded, and don't place any important elements or text in that area. Make sure you create your document as RGB even if your final illustration is for print and needs to be in CMYK format.



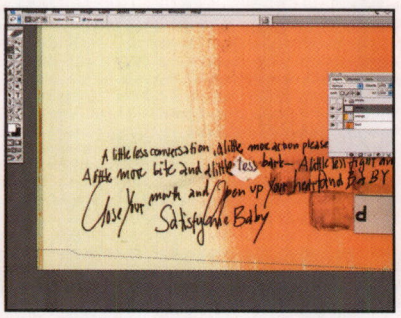
2 We'll use a scan from an old sketchbook for the background of the illustration, because it's dirty and scratchy. Copy scan.jpg from the cover CD and paste it into your document. Resize it to the size of the document by using Edit>Free Transform. Hold the Shift key during resizing so that it's resized proportionally.



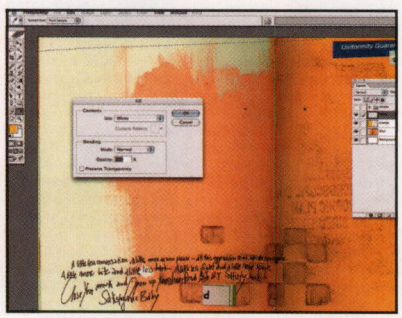
3 Since the right side of the document is a warm orange, we want to give the left side a warmer look too. Add a new layer, use the Rectangular Marquee tool and select the whole left half of the document. Fill it with a warm yellow colour.



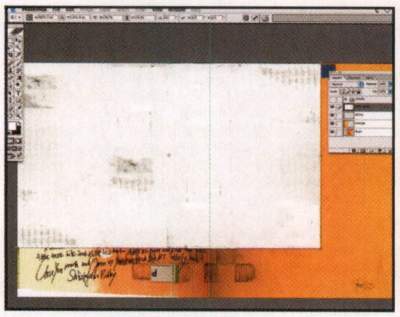
4 Now the first Blending mode comes into action. With the 'orange' layer still selected, choose Hard Mix as a Blending mode. Set the transparency to 10 per cent or just press 1. The difference is minimal, but the left side looks a little bit warmer. We could use other Blending modes to get the same results, but Hard Mix posterises the background and makes it more dirty.



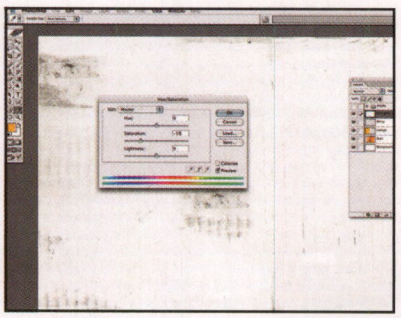
5 Now you need to open up the illustration a little by adding white parts at the edges of some borders. Add a new layer called 'white' and choose the Lasso tool. Select the areas at the top and the bottom of the design. Hold down the Alt key and create straight lines with the Lasso tool.



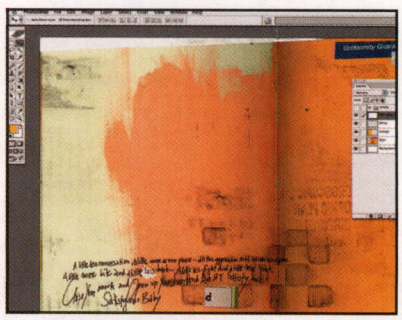
6 Fill the selection with a white colour (Edit>Fill). This opens the design at both sides of the document, so the design becomes less static when it appears in the pages of a magazine.



7 The design is already dirty, but it would look cooler with a bit more dirt. We've scanned in a piece of a dirty cardboard here. Copy dirt_grey.jpg from the cover CD, paste it into the document and resize it so that it fits over the whole background.



8 The base scan has a light green hue, so before you go any further with the design you need to desaturate the cardboard scan a bit. Select Image>Adjustments>Hue/Saturation and reduce the Saturation to -50 to get a more neutral look.



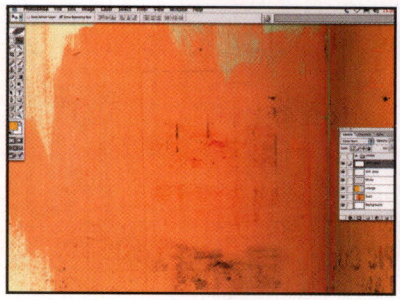
9 With the layer still selected, use Multiply as your next Blending mode. The white areas of the cardboard scan mostly disappear and the dark colours overlay the background of the design.

Part 2: Mr Multiply learns to fly

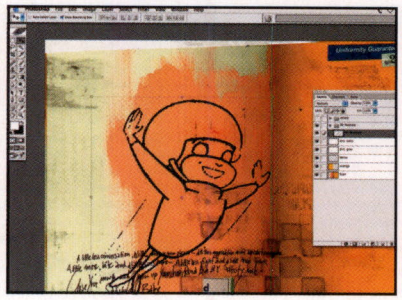
Once you've completed the background, introduce some character art...

White out

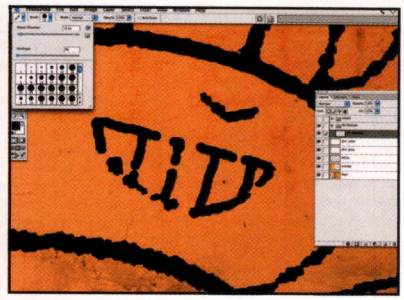
If you often use black-and-white line-art scans for your designs, and don't want to spend too much time deleting white areas with the Magic Wand tool, for example, just use the Blending mode Multiply to cut out white areas of the image. In combination with Brightness/Contrast, it's a great timesaver.



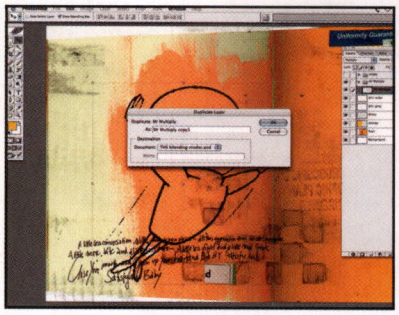
1 More dirt is still needed, this time in a red/orange colour. Duplicate the dirt_grey layer and move it one quarter distance above the whole page. Select the Colour Burn Blending mode. This is only a small change, but it's details like this that give you a rich illustration at the end.



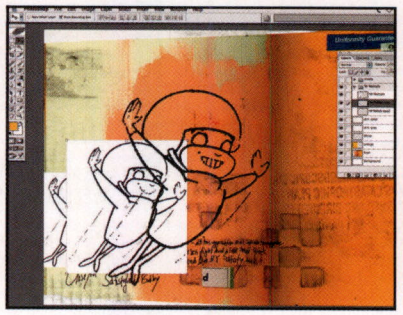
2 It's now time to add an illustration called Mr Multiply. It's from an old advertisement from the 50s, and its rough edges make it well-suited to our rough background. Copy Mr Multiply.psd from the cover CD and paste it into your document. You don't need to eliminate the white, because it works simply by using the Multiply Blending mode.



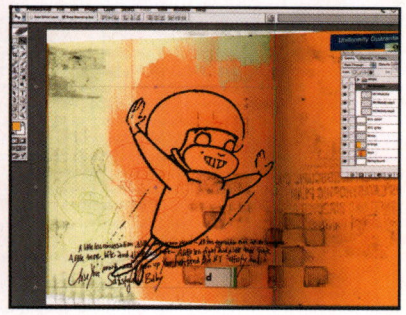
3 Add some teeth to the figure to make it look like it's smiling. Select the Pencil tool. Don't use the Brush tool because it's Anti-Aliased and our figure's borders are not Anti-Aliased. In the Brush preset picker choose a brush size of 13. Carefully paint some teeth into the mouth.



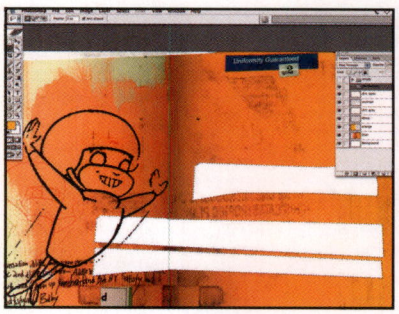
4 More depth is needed in the illustration and you need to add some kind of motion effect to the figure. Select the Mr Multiply layer, and duplicate it two times with Layer>Duplicate Layer so that you have new copies of the figure.



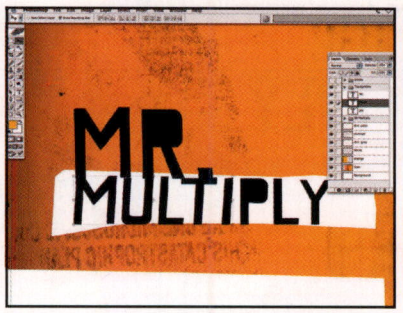
5 Now resize the duplicated layers so that each one gets progressively smaller than the original. Once you've done this you'll have the beginnings of a motion effect. Create depth by changing the Blending mode of the two new layers.



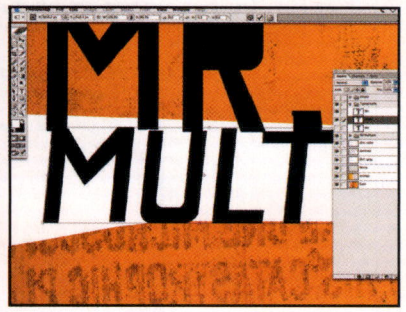
6 Select the first copy of Mr Multiply and set it to Colour Burn mode in the Layers palette. Set the Opacity to 20 per cent. Do the same with the second copy but here we've chosen 15 per cent Opacity to give it a more washed-out look.



7 The illustration now needs some contrast. Add a layer, select the Lasso tool and select some areas as pictured. Hold down the Alt key to create straight lines with the Lasso tool. Fill the selection with white (Edit>Fill).



8 Now add some typography. Select the Horizontal Type tool and type in some text. Use more then one text block and experiment with different sizes. It's easier to set the size of the text by using Edit>Free Transform than changing the point size in the Character palette.

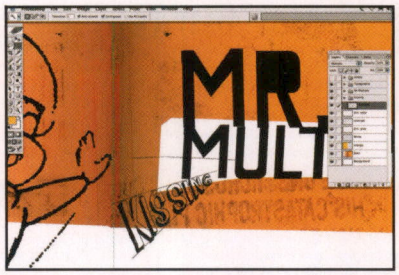


9 Select part of your text (here, we've chosen MULTI) and choose Edit>Free Transform. Click and hold on the upper-middle control point and hold down the Alt key. Move the mouse slightly to the right. Your text will now look italicised. We do the same with the MR text layer.

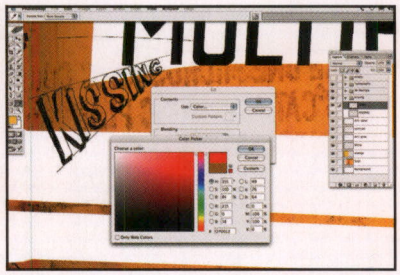
Mr Multiply learns to fly continued...

Blending modes in layer sets

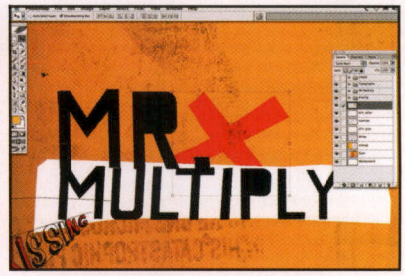
Instead of setting the same Blending mode to a number of different layers, you can link the layers into a layer set and select the Blending mode of the entire set. Note that the layers only act with the background not with the other layers in the same set. Layers that overlay will be cut out from the layer at the top level of the set.



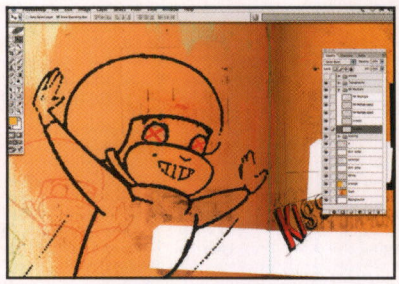
10 It's time to bring in another scan – the word KISSING in hand-drawn type. Add kissing.tif to the illustration just like you did with Mr Multiply. Use Multiply mode again for the layer so that the white background colour of the scan is eliminated.



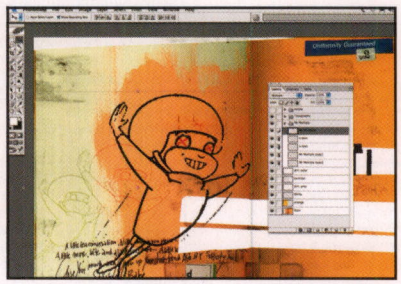
11 Fill some letters of the hand-drawn type with another colour, so that the word KING appears. Select the Magic Wand tool (Tolerance: 1, Anti-Aliased, Contiguous) and with the Shift key held down select K, I, N and G. Add a new layer. Fill the selection with a red colour and set the Layer again to Multiply mode.



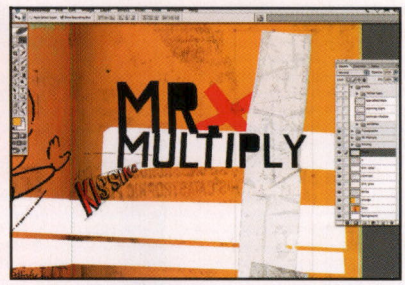
12 Add the scan x.jpg from the cover CD. The red colour of the X needs to be a bit more powerful, so choose the Colour Burn Blending mode again. You'll see that the white borders are eliminated and as a result you get a powerful red colour.



13 Mr Multiply would be nothing without his magic X-ray eyes. With the big X still selected, duplicate the layer twice. Select one of the copies and resize it so that it fits in one of the eyes of Mr Multiply. Do the same with the other eye.



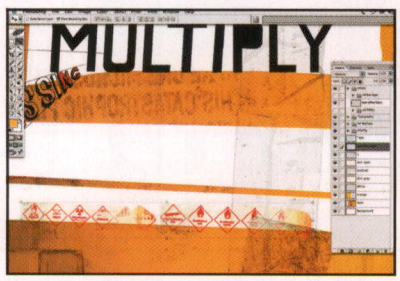
14 Always try to keep groups of layers linked into layer sets. This makes workflow easier especially if you have a huge amount of layers in the document. Link Mr Multiply, his two clones and both the Xs from his eyes into a New Set.



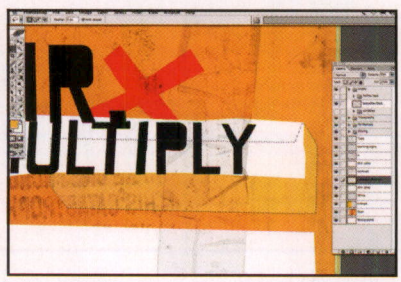
15 More stability is needed at the right and the bottom part of the page. We're going to add two new elements, the first one being a scan of a dirty piece of adhesive tape. Copy dirt_tape.jpg from the cover CD and paste it into the document. Set the Blending mode to Multiply.

Part 3: Trash it!

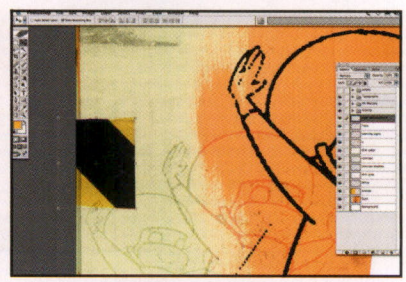
Add more layers of trash to fine-tune your illustration...



1 Copy and paste warning_signs.jpg into the bottom of the page. In the Layers palette, set the Blending mode to Multiply just as you did in the previous step.



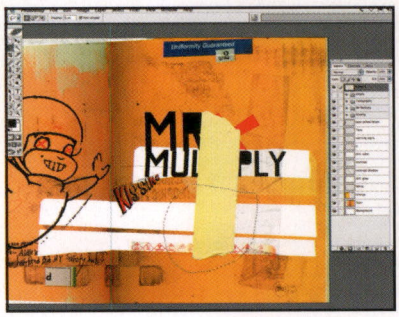
2 Again, more depth is needed in the illustration. You need some kind of light shadow below the white area under the text. Add a new layer to your document and set the layer Opacity to 30 per cent. Select the Lasso tool and draw a box as above. Fill it with white.



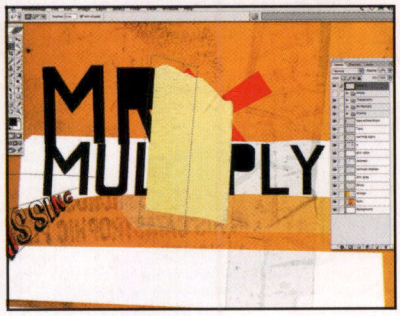
3 An illustration from {ths} design would be nothing without some yellow-and-black tape. Copy yellowblack_tape.jpg from the cover CD and paste it into the document. Set the Blending Mode to Multiply. You could use Normal mode too and set the Opacity to 80 per cent, but the black of the tape would become grey and we don't want that.

How much blending?

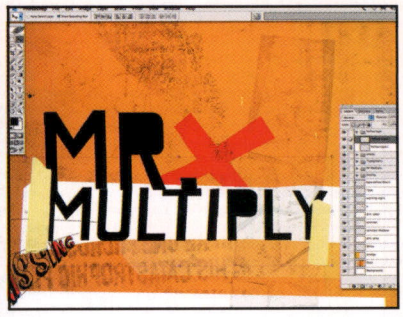
In this tutorial, we use just three different kinds of Blending modes. Don't overload your design with hundreds of filters or Blending modes – remember, you should be concentrating on the design not the effects.



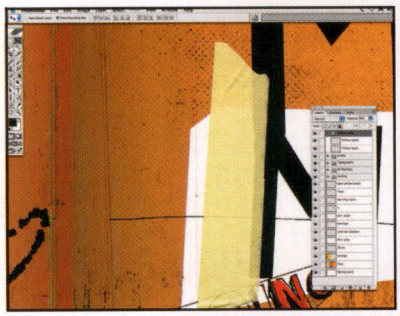
4 The typography looks like it's just on top of the illustration, so let's 'connect' it more to the illustration. Open yellow_tape.psd, and copy and paste it. Select the lower half of the tape with the Lasso tool, and delete it.



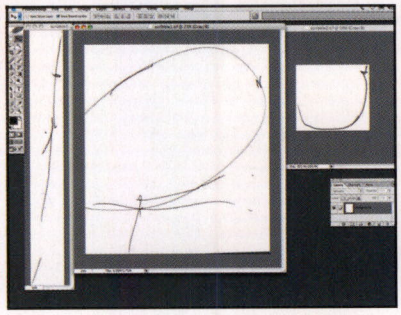
5 Split the tape in two so that you have two tapes of a smaller width than the original scan. With the Lasso tool still selected, mark the left half of the tape. Duplicate the selected area with Layer>New>Layer via Cut. Now you should have two layers with different tapes.



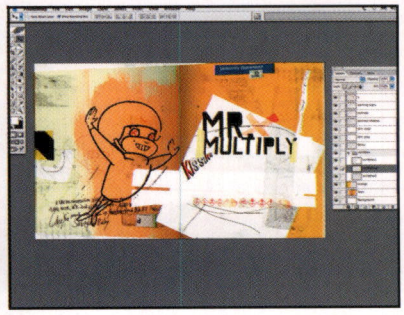
6 After setting the size of each tape by using Edit>Free Transform, link both layers and select 'New Set from Linked' from the Layers palette. You should now have a layer set containing two yellow-tape layers. But they don't look very realistic...



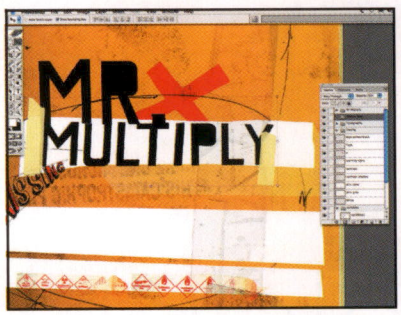
7 In real life the yellow tape is semi-transparent, so add the same effect in *Photoshop*. Set the opacity of both layers in one step. Instead of setting it for each layer separately, activate the layer set and change the Opacity to 90 per cent. Make sure that the Blending mode is set to Normal.



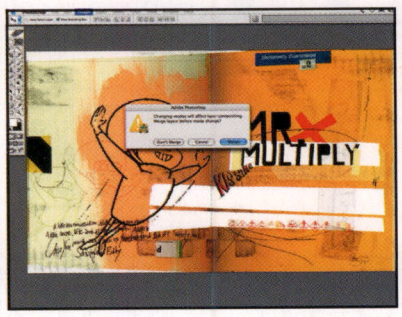
8 It's time for some more scratchy hand-drawn stuff. Open scribble1.tif, scribble2.tif and scribble3.tif, and copy and paste them into the document. Link them again into a layer set, as you did with your two yellow-tape stripes before and move the layer set just over the 'orange' layer.



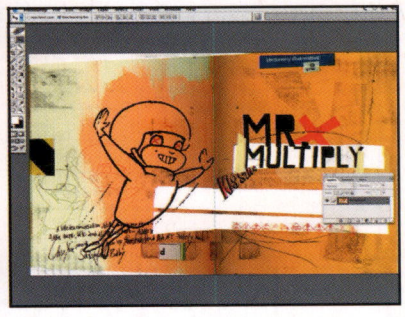
9 After moving the layers to the desired place, select the scribble1.tif layer and rotate it using Transform>Free Transform so that it's in harmony with the surrounding elements and the overall design. Even if the drawing seems random, the location of the object isn't.



10 Select the Scribbles layer set, and set the Blending mode to Multiply. All layers in the Layer Set will automatically multiply with the background. Note that the layers only act with the background not with the other layers in the same set. They won't multiply each other.



11 The illustration needs to be in CMYK mode for printing – RGB mode is not suitable. It's important that you flatten the image before converting. Changing the modes without merging the layers could affect layer compositing. Select Image>Mode>CMYK, and in the pop-up window click on Merge. *Photoshop* will do the rest.



12 Once the layers are merged and converted to CMYK, select Flatten Image in the Layers palette and the image will be flattened. Now you just have to save it as a TIFF or EPS file for further use in *InDesign* or other programs. Don't use JPEG files because their compression can cause problems during printing. ca-p

Illustration by atomicattack [w] www.atomicattack.com

Channels explained

Colour information is handled by channels in *Photoshop*, but the Channels palette offers more to the creative users who know where to look...

Whenever an image is opened in *Photoshop* the colour elements of that image are split into separate channels. The number of colour channels depends on the colour mode of the image. If, for example, an image is in CMYK mode, the Channels palette will contain five channels by default. There will be a composite channel at the top of the palette followed by one channel each for cyan, magenta, yellow and black (K). The channels can be thought of as traditional printing plates containing the process colours that will produce a full-colour image when printed in succession. Channels are, by default, represented by greyscale previews of each plate in the Channels palette.

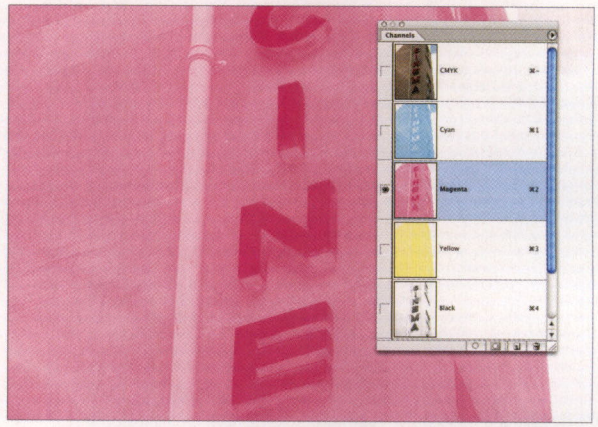
For the average *Photoshop* user this will be about as far as their knowledge extends, but the Channels palette can also be used to create extra channels, called alpha channels, for masks and spot colours. Additional channels do not affect the actual colour content of an image directly; they only contain a mask that can be turned into a selection for image-editing purposes.

> "You can have up to 56 channels in a document, so it's no problem to make several duplicate channels for experimenting with filters"

When using the Quick Mask mode to paint over a selected area of an image, a temporary channel appears in the Channels palette. If you then click on the 'Edit in Standard Mode' button, the extra channel disappears and the mask is turned into a selection. You can create a permanent alpha channel from the mask by making it a selection and going to Select>Save Selection. A window appears with options to name the new channel and choose a destination for it. The Save Selection dialog box also contains a set of options called Operations, which enable you to add or subtract new selections from a mask. These options become active when an alpha channel is selected from the Channel pop-up menu in the Save Selection dialog box.

Spot channels contain a mask with a specified colour that will be overprinted onto an image, and spot channels can be created from selections made on other channels or layers or from using the painting tools. When an image is saved with a spot channel, the channel is used as an extra plate in the printing process. You can create several spot channels with each one containing different colours to print more than one spot colour. When choosing a spot colour, it's best to select one from the Pantone range in the list of custom colour systems because this range is the most commonly used.

You can also print an image just using spot colours for a more stylised and specialised effect. This technique is particularly useful if you're designing on a budget and only using two or three colours. Instead of the conventional CMYK colours, try converting an image to a Multichannel file by selecting Image>Mode>Multichannel. The colour channels will then be converted into spot channels enabling you to change the colours of each channel from the Channel Options palette menu. It doesn't matter whether the image is in RGB or CMYK, but you'll get an extra channel from a CMYK image. You'll notice that the composite channel is lost when an image is converted to multichannel mode because it is no longer needed.



You can set the colour channels to display in colour in *Photoshop's* Preferences. This gives a more realistic preview of how each plate will print.

To view a channel while making the others invisible without having to click on the eye icons, hold down the Alt key as you click on the Channel thumbnail.

Colour channels in colour

Display your channels in an appropriate hue...

By default the channels are shown in greyscale, but there is an option in Preferences to display the colour channels in colour. This option can be of great benefit not only to those who may not be too clued up about colour values when it comes to the printed image, but also to more advanced users editing channels directly. If the channels are displayed in the colours they represent, then it's easier to visualise how much ink is going to print from each plate.

To activate this option go to Photoshop>Preferences>Display & Cursors and click on the 'Colour Channels in Colour' box. Then click on the Channels palette to see that each channel now appears in its own colour. If your image is in RGB mode, each channel will also contain black mixed in with the colour to give a duotone appearance.

Colour percentages can be checked on individual channels using the Eyedropper; the only problem is that the Info palette shows a percentage next to the K value instead of the selected channel. Alpha channels remain in greyscale because they don't hold any colour information.

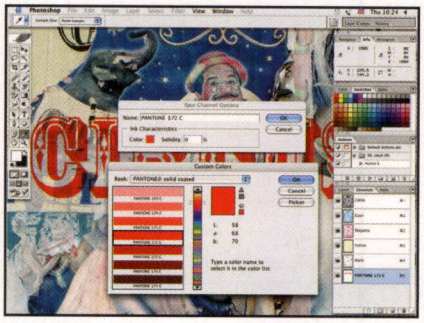
Stylised effects

Applying filters and effects to layers is standard practice, but filters can also be applied directly to channels. The simplest case would be to apply a Gaussian blur to an alpha channel containing a mask to soften hard edges. This simple technique is often used to help blend different elements in an image. Colour channels can also be duplicated to apply effects to while preserving the original channels. You can produce some very stylised images when the channel is then used as the layer mask for a fill or adjustment layer. You can have up to

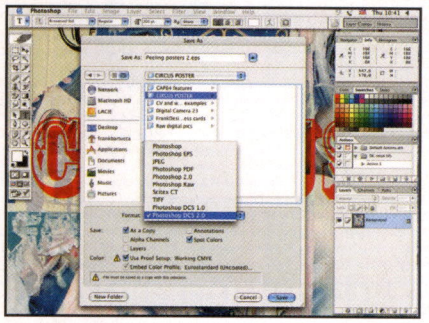
Creating a spot colour

We show you the easiest way to create a spot colour in *Photoshop*...

1 Make sure your document is in CMYK mode to give you the truest representation in print. Then make a selection to use as the spot channel – in this case the word CIRCUS was selected by Ctrl/Cmnd-clicking on the thumbnail. The text layer is then discarded.



2 Click on the Channels tab, then the arrow to access the palette menu and select New Spot Channel. Click on the Colour box to open the Colour Picker, then click on the Custom button. Choose a colour from the Pantone range and click OK. The Solidity value can be left as default because this only affects the on-screen preview and not the percentage of the printed spot colour.



3 The Pantone number names the spot channel enabling other applications to recognise the extra colour. If the file is then imported into *QuarkXPress* or *InDesign*, the colour will be added to the colour list. Save the image as a Single File DCS 2.0 (Desktop Colour Separations) file and choose a TIFF preview to make the image compatible with both Windows and Mac OS.

56 channels in a document, so it's no problem to make several duplicate channels for experimenting with filters.

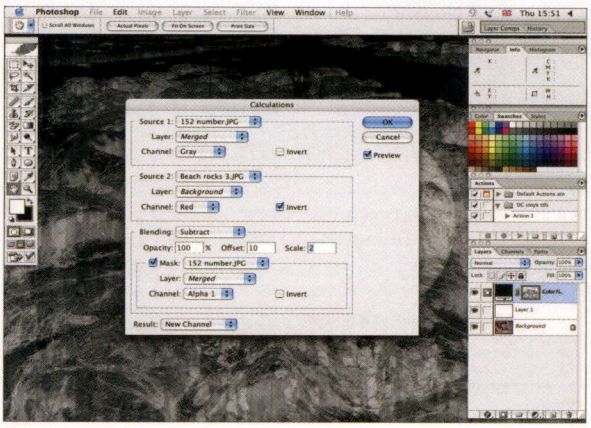
Another simple technique is to turn off one or more channels to see what effect it has on the colour of an image. Reducing the number of colours will again produce a more stylised effect, especially if filters are applied to the image too. The information on the hidden channel needs to be deleted before saving the image because the channel will become visible again in the new file. You can delete colour channels but then the image is converted to a multichannel file and there are a limited number of formats available when saving.

Splitting images

There are two options in the Channels palette menu that enable you to split or merge channels in a document. The Split Channels option will create a new greyscale document from each colour channel in a flattened file. The original document is closed and each channel appears in a new document window. This option is useful for viewing all colour channels at once.

Merging channels will reunite split channels into a single document again. In fact, the Merge Channels option will combine a number of open greyscale images into a single document as long as they all have the same dimensions. So you can create an image in which each channel contains a different image and colour. You have a range of ›

> "You can create an image in which each channel contains a different image and colour"



The Calculations command enables you to create complex masks by blending the layers and channels from two different sources.

Here two different photographs were blended together using the Calculations command then coloured using fill and gradient layers.

"One advantage alpha channels have over layer masks is that you can blend several channels to create new ones"

colour modes to choose from depending on the number of images that need to be merged. Three or four images can be merged into an RGB or CMYK file, but any number above these will have to be combined using the multichannel mode. A multichannel image will appear in greyscale, which you can then colour by choosing a spot colour for each channel. Once a channel has been converted to a spot channel, it cannot be changed back to an alpha channel unless you step back to a previous history state, so be sure to work on duplicates when experimenting.

Creative calculations

The addition of layer masks to *Photoshop* has seen the decline in the need to use alpha channels to create masks and make selections in the conventional way. But one advantage alpha channels do have over layer masks is that you can blend several channels together to create new ones. Mixing channels is nothing new – the Calculations command under the Image menu has always been a part of *Photoshop* – but most users aren't aware of its creative power.

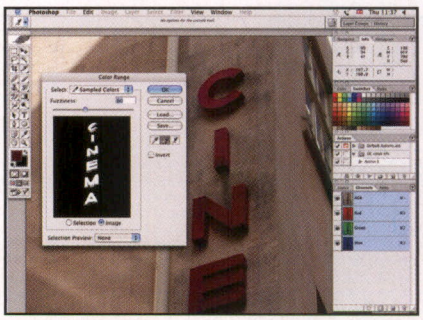
The Calculations command enables you to build up complex masks that can be used for subtle colour correction. Once a new alpha channel has been created using Calculations, a selection can be made from it and used as the layer mask for an adjustment layer. This technique is useful for subtle colour enhancements on images that may be too high in contrast or saturation in certain areas.

To use the Calculations command to its fullest effect, you should have at least one document open with more than one layer containing different contents. Select the Calculations command from the Image menu and experiment with the option settings. You can choose two different sources from a list of open documents, as well as a specific layer and channel from each source to be blended.

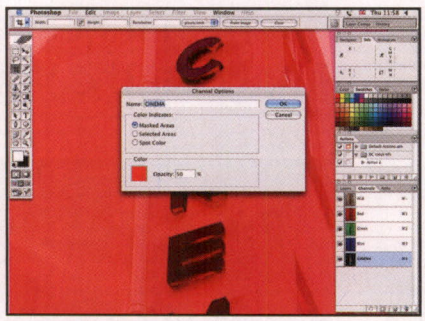
Two extra blending modes are available in the Calculations command – Add and Subtract – which also have extra options to offset or scale the effect. A live preview shows the result of the blended channels, which can then be saved as a new channel. This kind of channel blending can achieve very complex masks for special effects. It's possible to create entire illustrations just by blending channels together that contain different elements, then converting the channels to layer masks to add colour on layers. ca-p

Creating selections using alpha channels

Find out how to make the most of alpha channels...

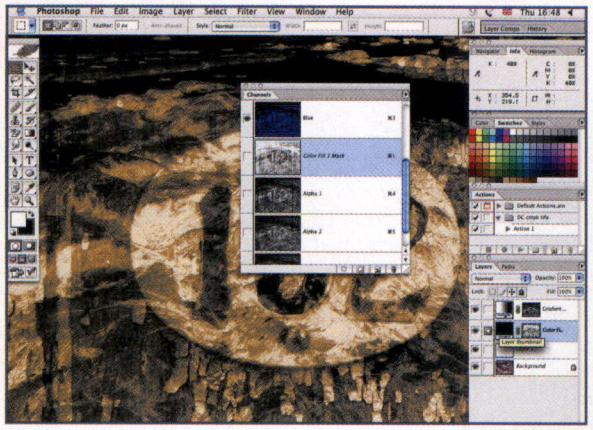


1 Alpha channels are ideal for storing masks that can be used throughout an editing session or saved with an image file for later use. Start by creating a Quick Mask or make a selection from a channel or layer. Here the Colour Range command has been used to select the cinema sign in this image.

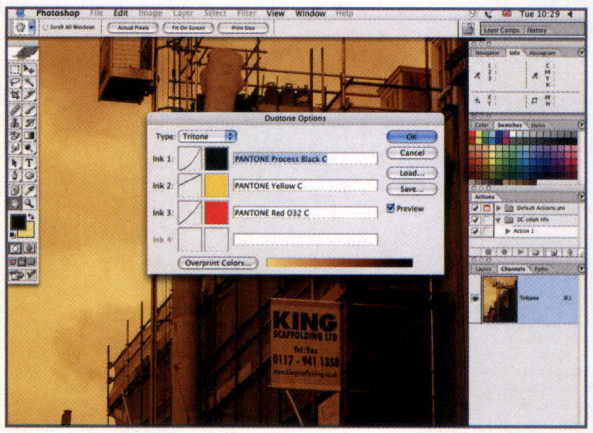


2 In the Channels palette create a new channel by clicking on the 'Save selection as channel' button. You can adjust the options for the channel by clicking on the triangle and choosing Channel Options from the palette menu. Here you can name, set the colour and opacity of the channel and also convert it to a spot channel.

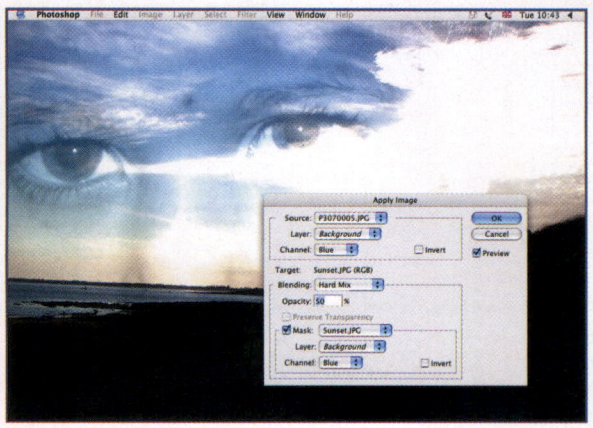
3 To use the channel as a selection, click on the 'Load channel as selection' button at the bottom of the Channels palette. Now you can use the selection to create a layer mask or to edit a layer directly. If a new fill or adjustment layer is created, the selection will be transferred to the layer mask.



Layer masks are basically the same as alpha channels – when a layer with a layer mask is selected, a temporary channel appears in the Channels palette.

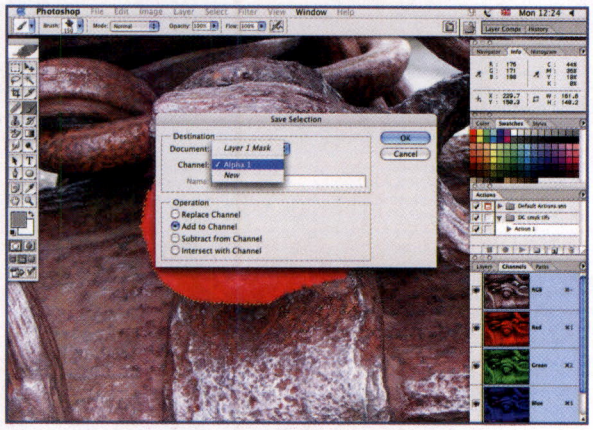


Duotones contain all the colour information on a single channel. The colours have to be adjusted in the Duotone Options dialog box.

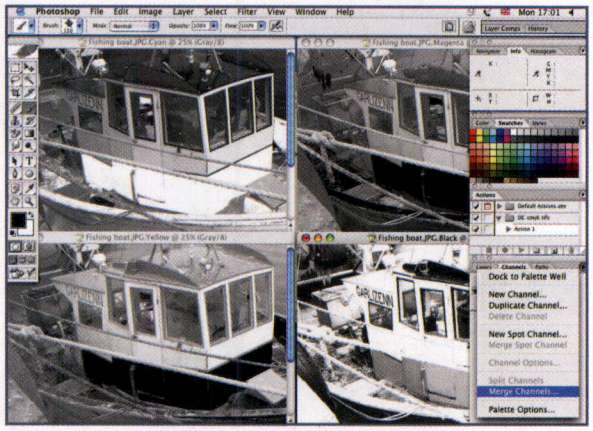


The Apply Image command is similar to the Calculations command, enabling you to mix layers and channels from one image to another.

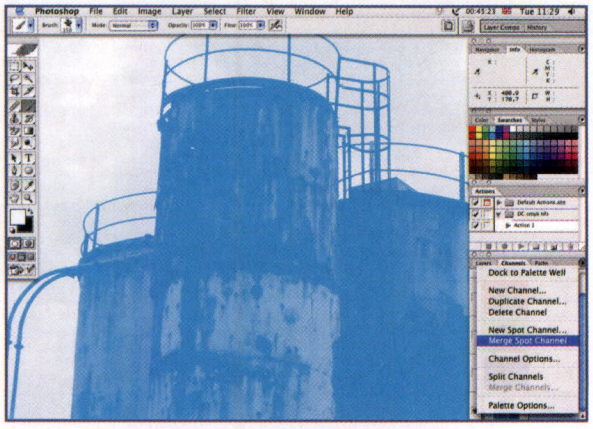
"Most users are not aware of the creative power of mixing channels"



The Save Selection command enables you to perform several selection operations to build up more complex masks on alpha channels.



This CMYK image has been split into four separate files containing a single colour channel's information in each one.



A spot channel can be merged with the other colour channels in an image by selecting Merge Spot Channel from the Channels palette menu.

photoPLAY G-X 400
TRACK LENGTH ARTIST
01 3:55 The photo realists
The beat of the CPU
VOLUME
MP3 PLAYER / RECORDER

Photorealism in Photoshop

Using nothing but Adobe *Photoshop*, we show you how to build a photorealistic MP3 player...

It's time to turn your *Photoshop* skills up a notch. We're going to show you how to create an interface shape, add realistic depth to it and then add all the little details that give it that special touch of realism. Don't look for this little gadget at your local electronics store because it only exists in the mind of the creator, on these pages, and on the CD. These photorealistic images are usually created from observing objects in the real world, but in this case we're taking a different and fun tangent.

Some of the effects and techniques are fairly advanced, so if you're a beginner, this may be a little frustrating for you. Intermediate users will fare much better, picking up some useful techniques as you go. More importantly, workflow techniques and secrets to photorealistic illustration are revealed.

You need to be patient with this tutorial because we cover a lot of different techniques and move pretty quickly. If you're creating the image full size, you'll also need plenty of RAM – our finished file exceeds 500MB.

Expertise provided by Colin Smith, founder of the popular PhotoshopCAFE web resource, and a graphic designer famous for his photorealistic illustrations composed entirely in *Photoshop*. He's co-authored a number of books for Friends of Ed, including the recent *New Masters of Photoshop: Volume 2*. Visit **[w]** www.photoshopcafe.com to see more of Colin's work.

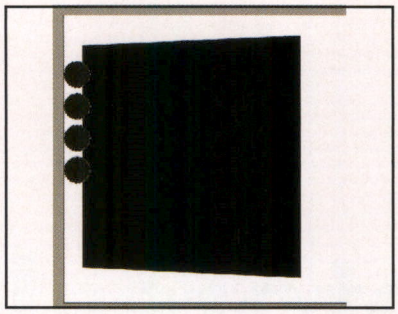
The custom shapes used in this tutorial can be found on the cover CD in the Software\Tutorials\Tutorial files\Tutorial files\All\Photorealism folder.

Part 1: Creating the shape

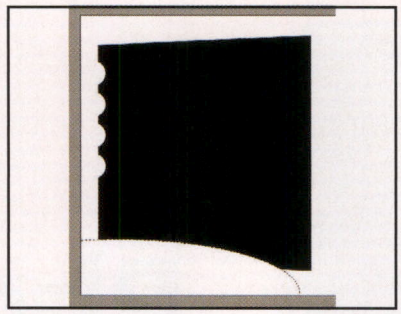
Create the rough shape of your MP3 player and then use gradients and lighting effects to add some depth...

Composite layer

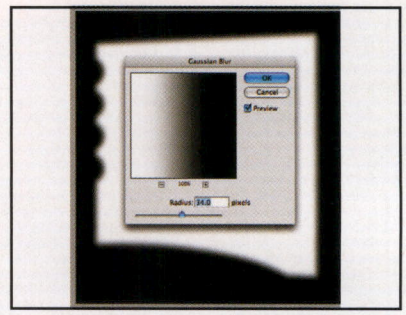
To build a composite layer, create a new blank layer and place it above all the layers you want to mix. Press Ctrl–Alt–Shift+E (Cmnd–Option–Shift+E on a Mac). This merges all the visible layers into the new layer while leaving all the original layers intact.



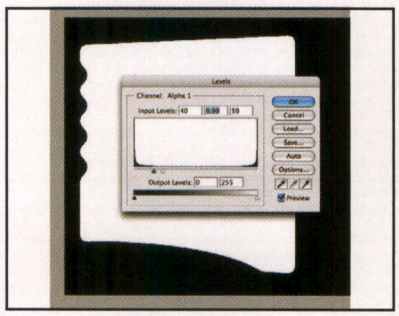
1 Make just one side of the shape so that the full shape is symmetrical. To do this, create a new layer. Make a rectangle using the Rectangular Selection tool, fill and then distort it using Edit> Transform>Perspective. Create a filled circle on a new layer, duplicate and select all by Ctrl/ Cmnd+Shift-clicking on the layer thumbnails.



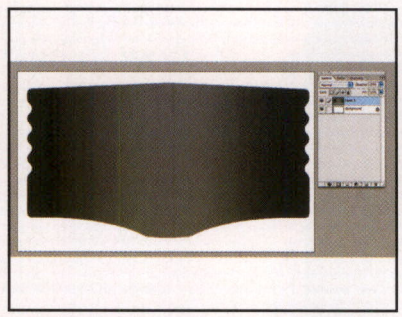
2 With the circles selected, click on the main shape layer and press delete to remove the grooves as shown. Delete the circles layers. Choose the Elliptical Marquee tool and make a selection in the shape of a curve at the bottom corner of our shape. Hit Delete to trim the shape.



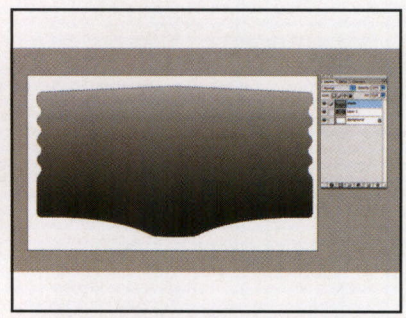
3 We now want to smoothen the corners of our shape. Select the entire canvas (Ctrl/Cmnd+A). Copy the selection. Switch to the Channels palette and create a new alpha channel. Paste the shape into the alpha channel. Choose Filter>Blur>Gaussian Blur at 34 pixels.



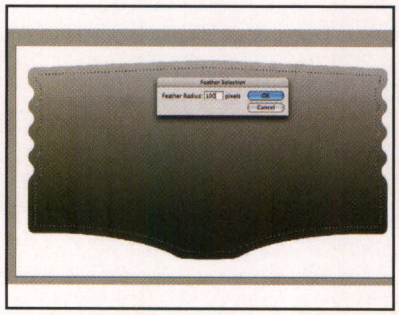
4 Now harden the edges by choosing Image> Adjustments>Levels. Pull the sliders close together to tighten up the shape. Notice that the shape changes size depending on where the sliders meet on the scale. Click OK.



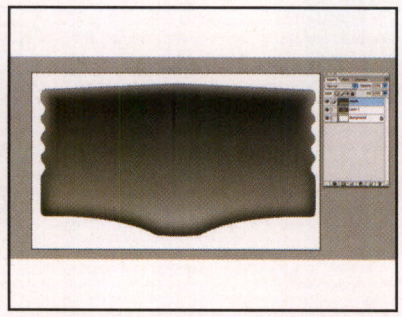
5 Load the alpha channel as a selection. Click on RGB at the top of the Channels and go to the Layers palette. Fill the selection with a light-to-dark-grey gradient on a new layer. Duplicate and flip the layer. Merge the shape.



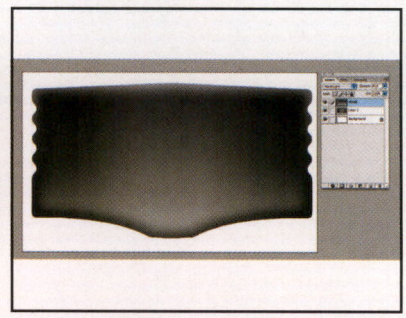
6 You can now discard the extra layers because they're no longer needed. Next, add some depth. To do this, duplicate the layer containing the shape. Load as a selection. Fill with light-to-dark-grey vertical gradient, with the lightest grey on top.



7 With the selection still active, choose Select>Modify>Contract Selection. Enter the maximum value of 100. Choose Select>Feather and enter a setting of 100 to match the contraction.



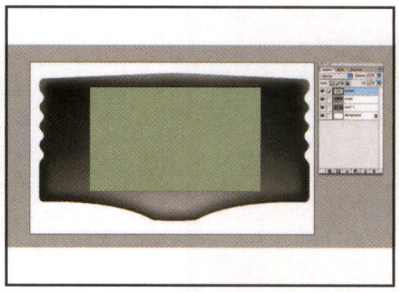
8 Using the same gradient setting as we used before, create a linear gradient going in the opposite direction, this time starting from the bottom. Notice how this technique adds a lot of 3D feel to the shape, giving it a nice rounded depth.



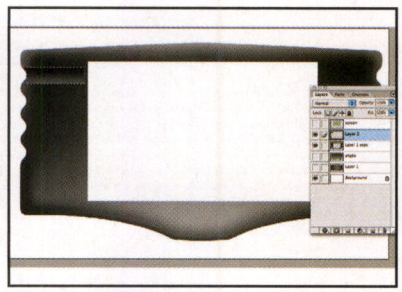
9 For even more depth, mix together the two layers. The mix of the different gradients gives a multi-dimensional feel to the shape. Change the Blending Mode of the top layer to Hard Light and lower the Opacity to 91 per cent.

Realistic shadows

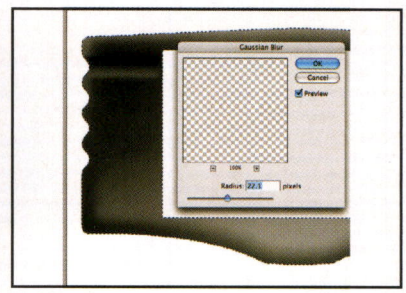
Shadows are one of the main sources of realism. Imagine a light shining down on your image, and create all your shadows and highlights with this light source in mind. Also remember that the more acute the angle, the harsher, darker and smaller the shadows appear. A low angle creates long soft shadows.



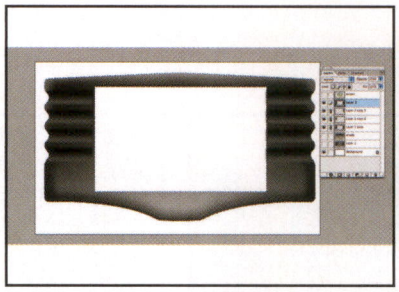
10 It's time to create the screen, at least the shape anyway. Make a new layer and fill a rectangle with a dull green for the LCD colour R:94, G:8, B:87. Name this layer 'screen'. Load as a selection if it isn't already.



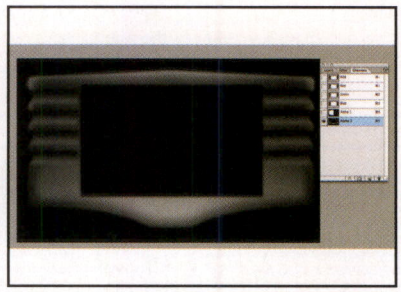
11 Create a composite layer from the two shapes (see the 'Composite layer' margin note) and cut out the shape of the screen. Create a new layer (Layer 2) and draw a rectangle. Trim to the shape of the interface and fill with a linear gradient.



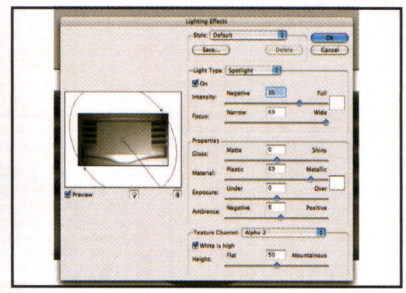
12 Load the selection from the shape to protect the edges, and with the rectangle layer (Layer 2) selected choose Filter>Blur>Gaussian Blur. Add a 22-pixel blur to blend the gradient smoothly into the interface. The settings you use may vary.



13 Duplicate the groove three times and position them down the left side. Merge the groove layers together. Duplicate, flip and position the groove gradients to add a groove feel to the right side of the shape. Create a composite layer and select and copy to the clipboard.



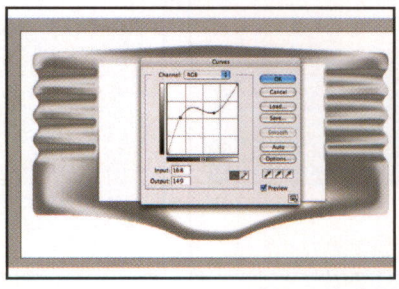
14 Create a new alpha channel and paste the shape of the body into the channel. Deselect and add a Gaussian blur – around 5-10 pixels should do it. You're now making a bump map to add even more depth to the interface shape. Click RGB to display all the channels.



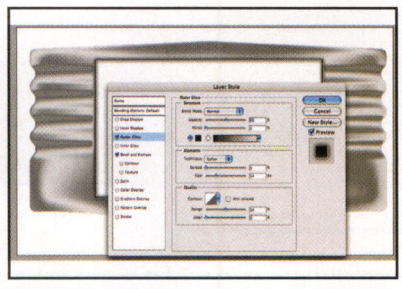
15 Go back to the Layers palette and choose the layer with the composite shape on it. Choose Filter>Render>Lighting Effects. Adjust the shape of the light as shown and adjust the settings. Load in Alpha 2 from the Texture Channel. It will all come to life now – click OK.

Part 2: Making the interface area

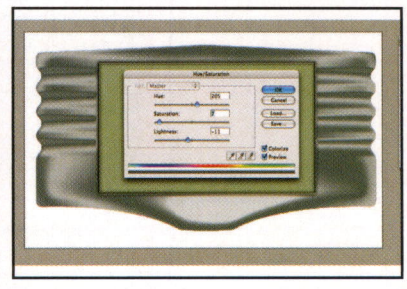
Now that you've finished with the body, it's time to make the screen and buttons...



1 You can add extra depth to the shape and make it look more shiny by adjusting the curves. Choose Image>Adjustments>Curves. Drag the curves as shown (or whatever suits your taste). Now repeat and adjust the curves once again. Here, we've chosen a metallic look.



2 First, make a border around the interface. Load a selection in the shape of the rectangle. Create a new layer and choose Select>Modify>Border 20 pixels. Fill with a grey gradient and add a bevel and Outer Glow Layer Style.



3 Show the screen layer and adjust it so that the border is on top, then the body and finally the screen. Add a little contrast to the body by selecting the layer and choosing Image>Adjustments>Hue/Saturation. Click on the Colourise option and adjust the sliders as shown.

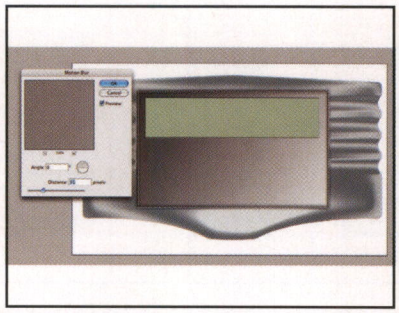
Making the interface area continued...

Brushed metal

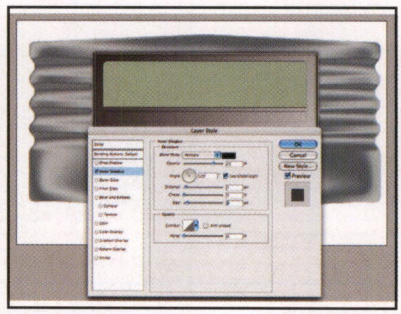
You can create a realistic brushed metal effect by choosing Filter> Noise>Add Noise. Add enough noise to produce a fine grain. Don't overdo it and 'snow out' your image. Choose Filter>Blur> Motion Blur. Set the angle to 0 for a brushed look.

Rasterising text

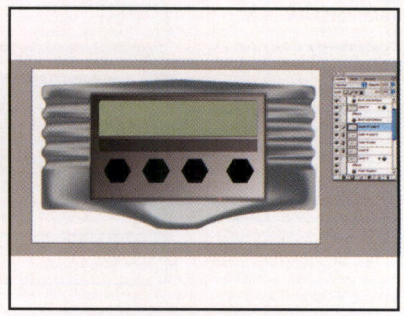
You cannot blur or otherwise affect the pixels on a vector text layer. The text must first be converted to bitmapped pixels. Right-click on the layer of the text and choose Rasterise Layer from the pop-up menu.



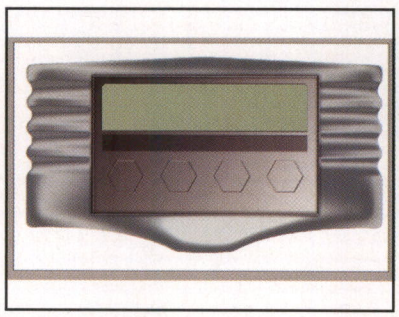
4 Choose the screen layer. Make a rectangular selection across the top and press Ctrl/Cmnd+J to copy the selected portion to a new layer. Click down a layer and fill the original screen layer with a grey gradient. Add a brushed metal effect (see the 'Brushed metal' margin note).



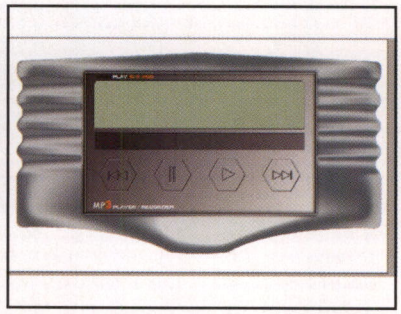
5 Make a selection in the shape of the volume slider (a thin rectangle below the screen). Press Ctrl/Cmnd+J to copy the selection to a new layer. Add an Inner Shadow Layer Style to give the slider a recessed appearance. Also add the Layer Style to the screen. Use Hue/Saturation to darken the slider slightly.



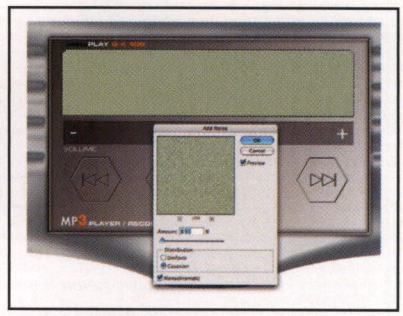
6 Create some Hexagonal buttons by choosing the Polygon Shape tool and entering 6 into the 'sides' field in the Options bar. Duplicate the shape three times and position them. Link the layers and click on Distribute Horizontal from the Options bar to evenly space the buttons.



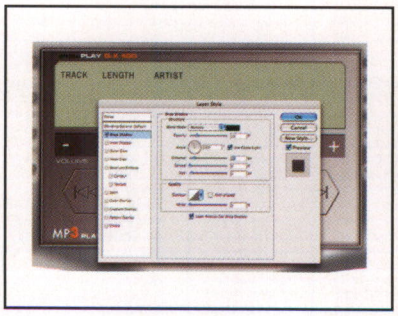
7 Merge the buttons onto a single layer. Ctrl/Cmnd-click on the Layer thumbnail to load the selections of the buttons. Hide the buttons and choose the brushed metal 'screen' layer. Press Ctrl/Cmnd+J to copy a selection of the buttons to a new layer. Add a Bevel Layer Style. Choose Pillow Emboss.



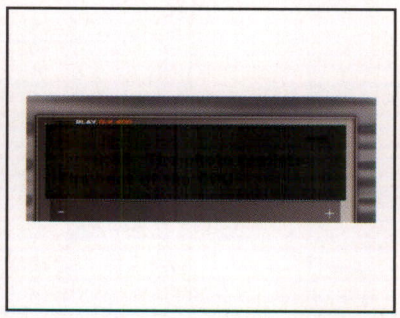
8 Create some icons to label the buttons. (The custom shapes can be found in the iface.csh file on the cover CD.) Cut them out by making a selection and pressing the delete key on the button layers.You can also add some text to the interface for effect.



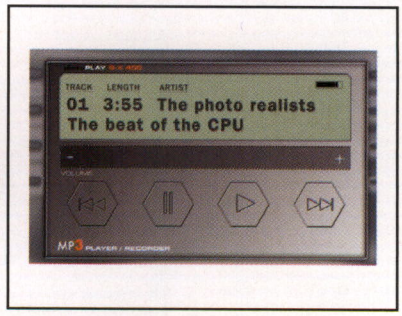
9 Next, add some realism to the screen – a bit of noise will make the LCD look better. Choose the screen layer. Load the selection from the screen and choose Filters>Noise>Add Noise. Choose Gaussian and monochromatic. A setting of around 9 per cent works well.



10 Begin to add text for the display. Don't make it completely black or it'll look fake. Instead drop the Opacity down to about 90 per cent. Also add a faint drop-shadow effect to the text with the Opacity really low, no more than 20 per cent.



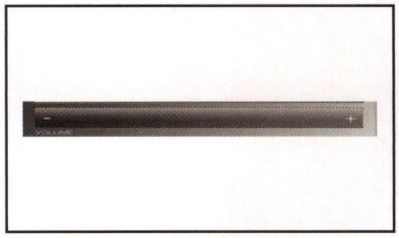
11 You can make the large writing look like it's made of small blocks. Create a grid pattern, create a new document at 10x10 pixels and make a 1-pixel stroke. Use Ctrl/Cmnd+I to invert. Select all and choose Edit>Define Pattern. Choose a new layer and fill with the grid pattern.



12 Use the Magic Wand tool to select all the blocks from the grid and choose the type layer. Press Delete to cut out the blocks. (Note that you have to rasterise the text first – see the 'Rasterising text' margin note.)

Be patient

One of your best allies is patience if you want to create photorealistic works. You do not have to finish an image all in a single sitting. If something isn't working, you can always delete it and try again. Pay special attention to your initial shapes, because these will set the stage for your entire image and are difficult to change later.



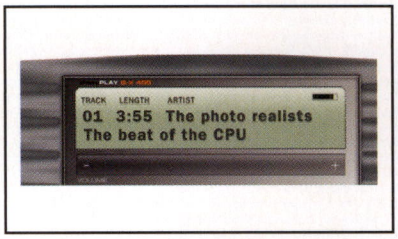
13 Now add some depth to the volume slider. Choose its layer and make a selection. Create a new layer and apply a white to transparent gradient, starting from the top to about halfway down the shape.

14 Press Ctrl/Cmnd+T for Free Transform. Drag the corners in a few pixels to contract the size of the gradient. Deselect and then choose Filters>Blur>Gaussian Blur and add just enough to spread the edges and give the illusion of depth on the gradient.

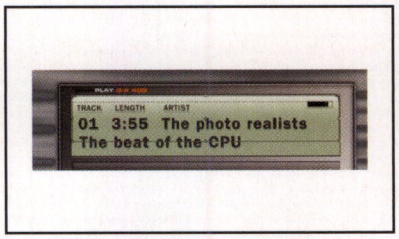
15 Now you can jazz up the buttons a bit. The Pillow Emboss is starting to look a bit boring. Double-click on the word effects on the buttons layer in the Layers palette to open the Styles dialog box. Change the bevel to an Inner Bevel and add a drop shadow. That's much better!

Part 3: Adding a realistic reflection

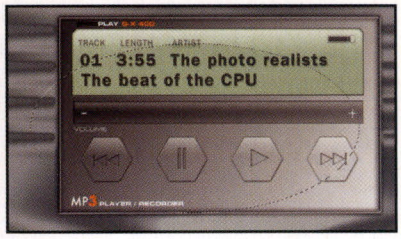
In this section, you can add a photorealistic reflection to the screen...



1 Load a selection of the screen. Create a new layer. Choose white as your foreground colour. Select the linear gradient and set it to foreground to transparent in the Options bar. Start your gradient about an inch above the selection and drag it three-quarters of the way to the bottom of the selection.



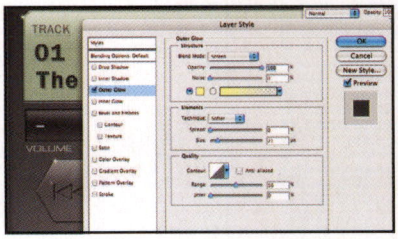
2 Choose Ctrl/Cmnd+T for Free Transform. Drag the two sides in a little and pull the top down slightly until there's an equal distance from the edges. You may need to pull the bottom up a little to match the above screenshot. Press the Enter key to apply.



3 Turn off the selection and apply a small Gaussian blur. Eyeball this so that the blur spreads the edges so they're just touching the sides of the screen. This gives a curved appearance. Create a large oval and press delete to cut an arc from the bottom of the reflection.

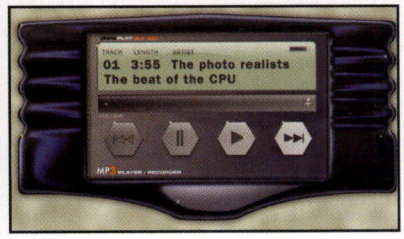
Part 4: Final touches

Now you can add a few finishing touches to make things really pop with realism...



1 Create a few glints to make the highlights pop. You'll be surprised at how much realism this adds. Make a new layer and choose a soft white brush. Using the airbrush option, add a little dab here and there. Add an outer glow layer style for more realism.

2 Create a new layer and lightly airbrush with black to bring out the shadows. Think about the light source coming from the top, darken the areas that would be shaded from the light. Add a Gaussian blur and lower the opacity to blend smoothly. Repeat with white for the highlights.



3 To finalise the image and make a little variation, you could create a Curves adjustment layer and darken the body a bit more. You could also create a new Hue/Saturation adjustment layer and add a blue colour to the MP3 player. This breaks the monotony of the grey. ca-p

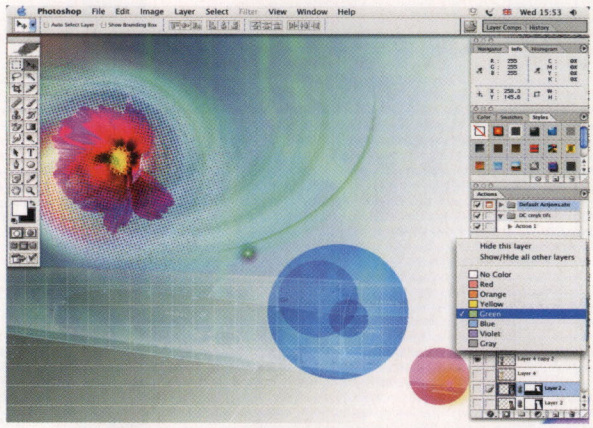
Illustration by atomicattack [w] www.atomicattack.com

Layers explained

The key to the successful and intuitive use of *Photoshop* layers comes from knowing the most important features and techniques...

Building up complex images in *Photoshop* would not be easy without the Layers palette. Layers are like transparent sheets containing either pixels or vector-based shapes and text which are stacked together to create a composite image. As well as conventional layers containing an image, you can also add fill and adjustment layers to create further effects. Fill layers contain a solid colour, gradient or pattern, and adjustment layers alter the colour of the underlying layers. Because these layers are separate to the image layers, they don't physically affect their content (the pixels).

Every layer can be blended with other layers in a stack by choosing a blending mode from the palette pop-up menu. The blending of layers can dramatically change the way an image looks and can be the key to creating an image with depth. Another option for blending layers together is by using layer masks to hide certain areas of layers without actually deleting any of the information. Layer masks are created by selecting a target layer and clicking on the 'Add layer mask' button. If there is an active selection, the layer mask will use this to create the mask. The selection will then become the transparent part of the mask.



You can choose different colours to indicate that certain layers have a similar function by Right/Ctrl-clicking on the eye icon.

"By linking several layers together, the contents of each layer can be transformed as a group"

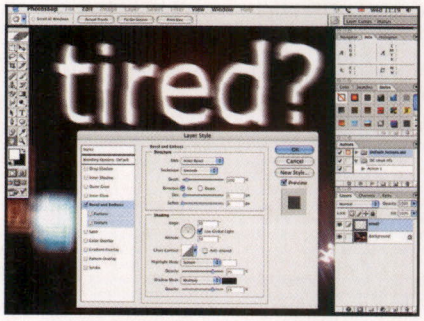
Layer masks are automatically linked to a layer as indicated by the link icon that appears between the two thumbnails. So if the content of a layer is moved, the mask will move with it. To make a layer mask independent from a layer, click in between the thumbnails to hide the link icon. By linking several layers together, the contents of each layer can be transformed as a group. Clicking to the left of a layer thumbnail will link it to the selected layer in the Layers palette.

Using clipping masks

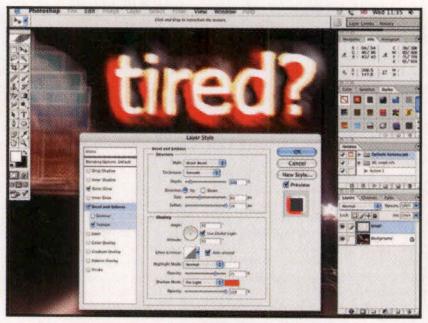
A layer can also be used as a base layer for a clipping mask that has a number of layers grouped with it. If, for example, you just want an adjustment layer to affect the layer below it, hold down the Alt key and click in-between the two layer thumbnails. The adjustment layer thumbnail shifts over to the right and an arrow appears to indicate that this layer is now part of a clipping mask. More layers can be added to the clipping mask by Alt-clicking in-between them. All the layers in a

Using layer effects

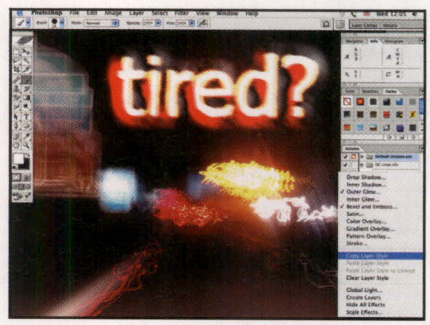
Find out how to adjust the effects and blending modes of your layers...



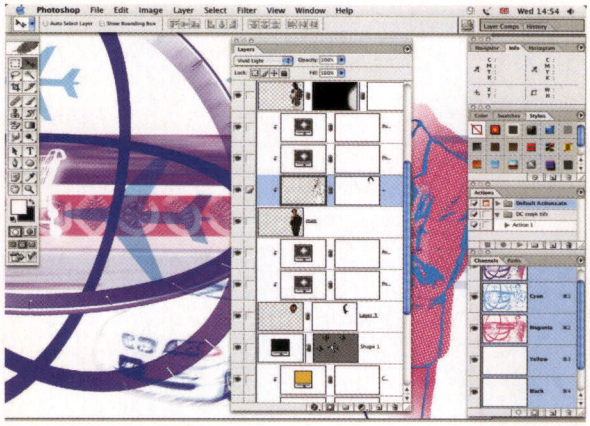
1 Click on the layer thumbnail with the selection, shape or text to which you want to add a layer style. Click on the 'Add a layer style' button at the bottom of the palette and choose a style. The Layer Style dialog box contains all the styles, with the one you have chosen selected.



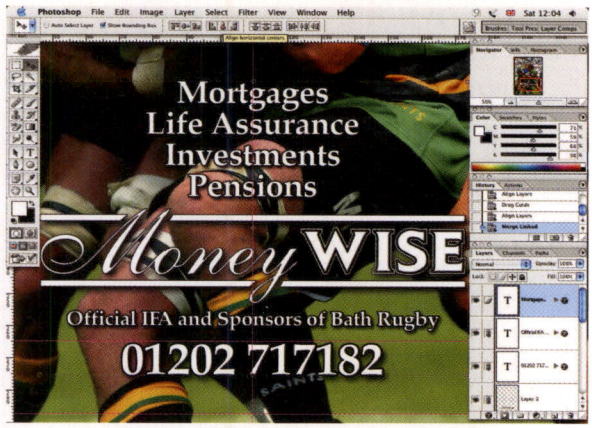
2 Adjust the option settings for the style you have chosen and add other effects by clicking on the boxes next to each style name. You can also adjust the blending mode of the layer by selecting Blending Options. A live preview shows you exactly what you'll get.



3 The layer effects now appear as a list under the layer that they're linked to. Click on the eye icon to hide any effects and on the arrow next to the layer effects icon to hide the list. Right/Ctrl-click on the layer effects icon to access a pop-up menu containing extra options.



Several layers can be arranged over a base layer to form a clipping mask so that their contents only appear on the non-transparent parts of the base layer.



You can align the contents of several layers by simply linking them and then using the Move tool options.

clipping mask will use the pixel or vector information on the base layer as the selection to create the mask.

The number of layers that any one document can contain is only limited by the amount of memory in your computer. If you have a brand new G5 with 2GB of RAM then you're laughing, but if your computer is lacking in memory or speed then you're going to need to get organised.

One way to do this is to merge several layers together by linking them and choosing Merge Linked from the palette menu. It's best to do this with layers containing elements that don't overlap and that share the same blending mode. You can merge all types of layers including fill and adjustment layers to make a single layer.

Arranging your layers

If you have a document with so many layers that you're finding it hard to locate certain layers when scrolling through the Layers palette, try arranging linked layers, or layers that make up a single element, into sets. Layer sets hold many layers in a folder that can be closed to save space in the Layers palette. To make a layer set from several layers, select the top layer and click on the 'Create a new set' button. Then drag each layer thumbnail onto the layer set thumbnail from the top layer downwards to ensure that they appear in the right order in the folder. The set can then be closed and given an appropriate name by double-clicking on the set name next to the thumbnail.

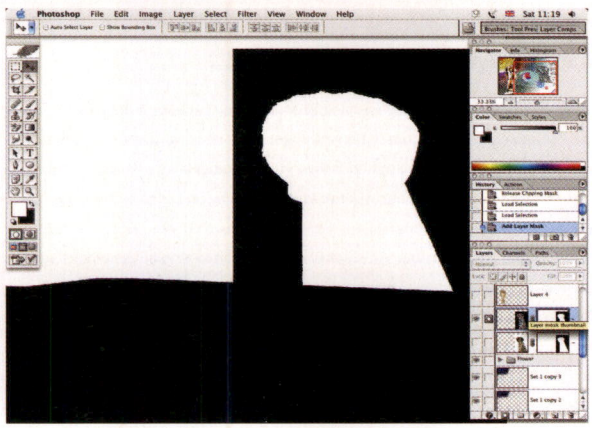
If you're creating an illustration with lots of repeated elements, layer sets help you work more efficiently. Whole sets can then be duplicated by dragging the layer set thumbnail over the New Layer button.

Adding effects

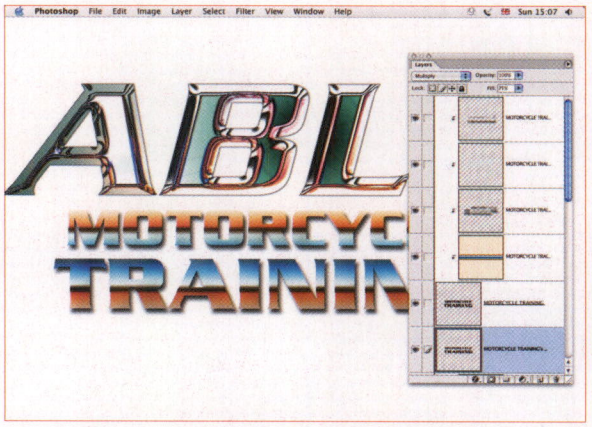
You can apply effects to the contents of layers, such as drop shadows, bevels and glows, by using layer styles. A simple application would be to create buttons for a website or adding effects to text, but layer styles have the power to be used in more subtle ways to create more unusual effects for illustration or styled images. The Styles palette offers a good selection of preset effects which can be applied by

> "If you're creating an illustration with lots of repeated elements, layer sets help you work more efficiently"

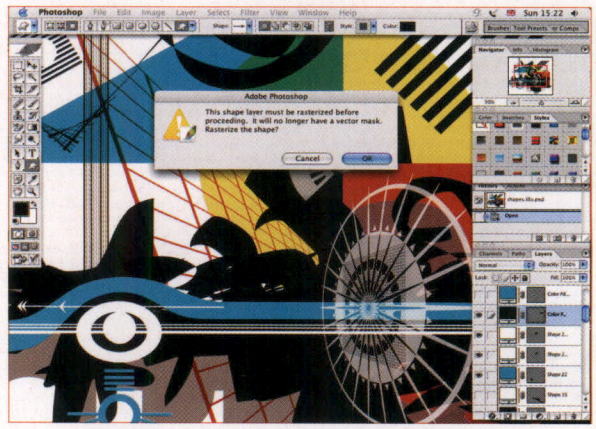
This entire illustration has been created using a multitude of combined and customised shape layers blended together.



To view or work directly on a layer mask, hold down the Alt key while clicking on the layer mask thumbnail.



When a layer style is converted to layers, all the effects appear above the original layer in a clipping mask, apart from the drop shadow effect.


Photoshop File Edit Image Layer Select Filter View Window Help
Sun 15:22
Adobe Photoshop
This shape layer must be rasterized before proceeding. It will no longer have a vector mask. Rasterize the shape?
Cancel
OK

You can rasterise a shape layer with the Shape tool by clicking on the Fill Pixels button in the options bar.

clicking on the style thumbnails. The Styles palette menu contains a list of additional sets of preset effects to extend the range of available preset styles.

Click on the style thumbnails to view how each style will affect the layer contents or add the attributes of other styles to the selected one by Shift-clicking on other style thumbnails. All the effects appear in a list under the layer thumbnail and you can access a pop-up menu by Right/Ctrl-clicking on the list. This menu contains essential adjustments such as Global Light and Scale Effects, enabling you to alter these attributes without having to open the Layer Style dialog box.

"Creating custom styles is simple: just set up the effects in the Layer Style dialog and click on New Style"

You can copy the layer style from one layer to another by dragging the Effects bar under the layer thumbnail to another layer thumbnail. A layer style can also be copied to other linked layers by choosing 'Paste Layer Style to Linked' in the layer effects pop-up menu.

Creating your own custom styles is simple too: just set up the effects in the Layer Style dialog box and click on the New Style button. The new preset will then appear at the end of the list in the Styles palette. Unlike filters, layer styles do not affect the information on a layer directly, so the layer contents remain intact. But you can transform all the effects in a layer style to separate layers by choosing Create Layers from the layer styles pop-up menu. The effects layers are then split into separate layers that appear above the image layer, and the group is converted to a clipping mask.

Shape layers

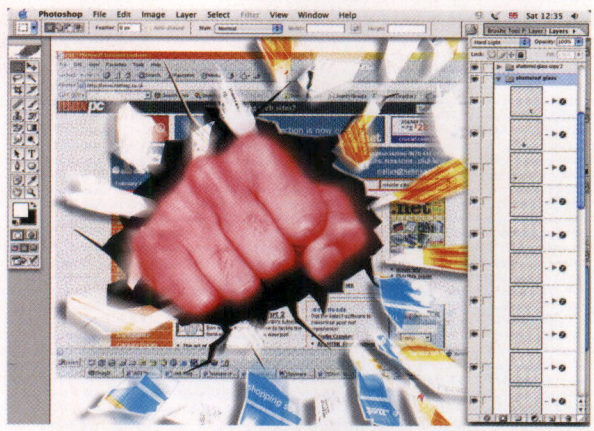
Shapes are drawn on separate layers to add graphical elements to a design or illustration. These layers don't contain any pixel information because the shapes are created using a vector mask linked to a fill layer that is filled with the selected foreground colour. To change the

Looking deeper into the eye icon

Use the eye icon to make layers visible or invisible...

The eye icon in the Layers palette indicates whether a layer is visible or not – you can toggle betwen the two options by clicking on the icon. But you can access more options by Right/Ctrl-clicking on the eye icon to bring up a pop-up menu. From here you can choose the option 'Show/Hide all other layers' which can be a great timesaver. If your document contains a large number of active layers, clicking on all the eye icons to hide them and just leaving one layer visible can be laborious.

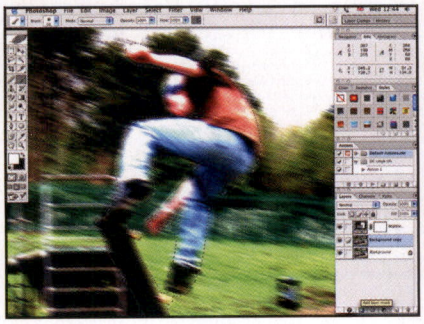
If your document has a few layers that are not visible, Alt-click on the eye icon to hide all the other visible layers. Using this method will not affect the invisible layers and so will not make them visible when you Alt-click on the icon again. There is also a set of colours to choose from that will colour the block containing the eye and layer content icons. It's useful to colour important layers so that they can be easily located in a large stack of layers.



This illustration has so many separate layers containing similar elements that they are all organised into a layer set to save palette space.

Creating a layer mask

Create and edit a layer mask in three easy steps...



1 First make a selection of the area that you wish to isolate on the layer mask. Here a selection was made using the Quick Mask mode and a soft-edged brush on a duplicate layer where a filter has been applied. Click on the 'Add layer mask' button at the bottom of the palette.

2 A layer mask is added to the selected layer with the selection becoming the transparent part of the mask. If you need to reverse the mask, either select the layer mask thumbnail and invert it (Ctrl/Cmnd+I) or hold down the Alt key when clicking on the 'Add layer mask' button.

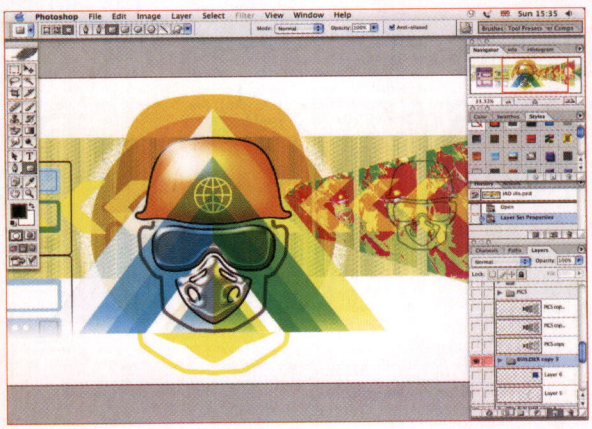
3 Click on the layer mask thumbnail to edit the mask, by painting on the image using the Brush tool or by making selections with one of the selection tools. Alt-click on the layer mask thumbnail to view the layer mask in the image window and check your progress or to edit the layer mask directly.

colour on a shape layer, double-click on the thumbnail and choose a new colour in the Colour Picker. A shape isn't restricted to just being filled with a solid colour though — you can change the content of the fill by going to Layer>Change Layer Content and choosing the Gradient or Pattern options.

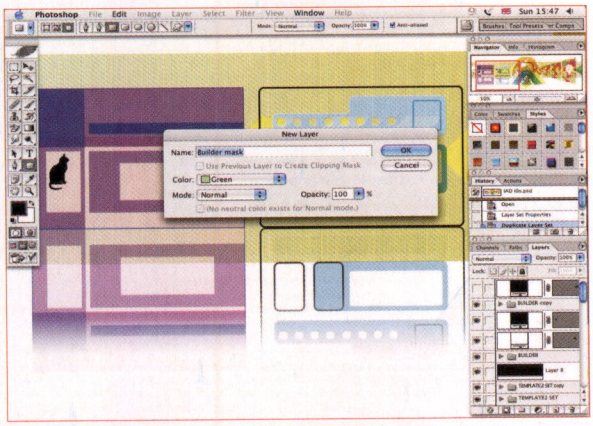
By default, the 'Create new shape layer' button in the options bar is selected so each shape is drawn on a separate layer. To draw several shapes on a single layer, hold down the Shift key to add, Alt key to subtract and Shift+Alt to intersect new shapes with overlapping ones.

Several shapes can be combined to make a single shape on a layer by using the Path Selection tool to Shift-select each shape and clicking on the Combine button in the options bar. Adding a layer mask to a shape layer will combine pixels and vectors on a single layer enabling you to soften hard edges.

If you're creating a piece of artwork using vectors and pixels, and this artwork is to be printed directly from *Photoshop* without importing it into another program, you need to save the file as a PDF to retain all the vector information. ca-p



To duplicate a layer set, drag the thumbnail onto the 'Create a new layer' button at the bottom of the Layers palette.



Holding down the Alt key when clicking on the 'Create a new layer' button will bring up the New Layer dialog box containing a number of options.

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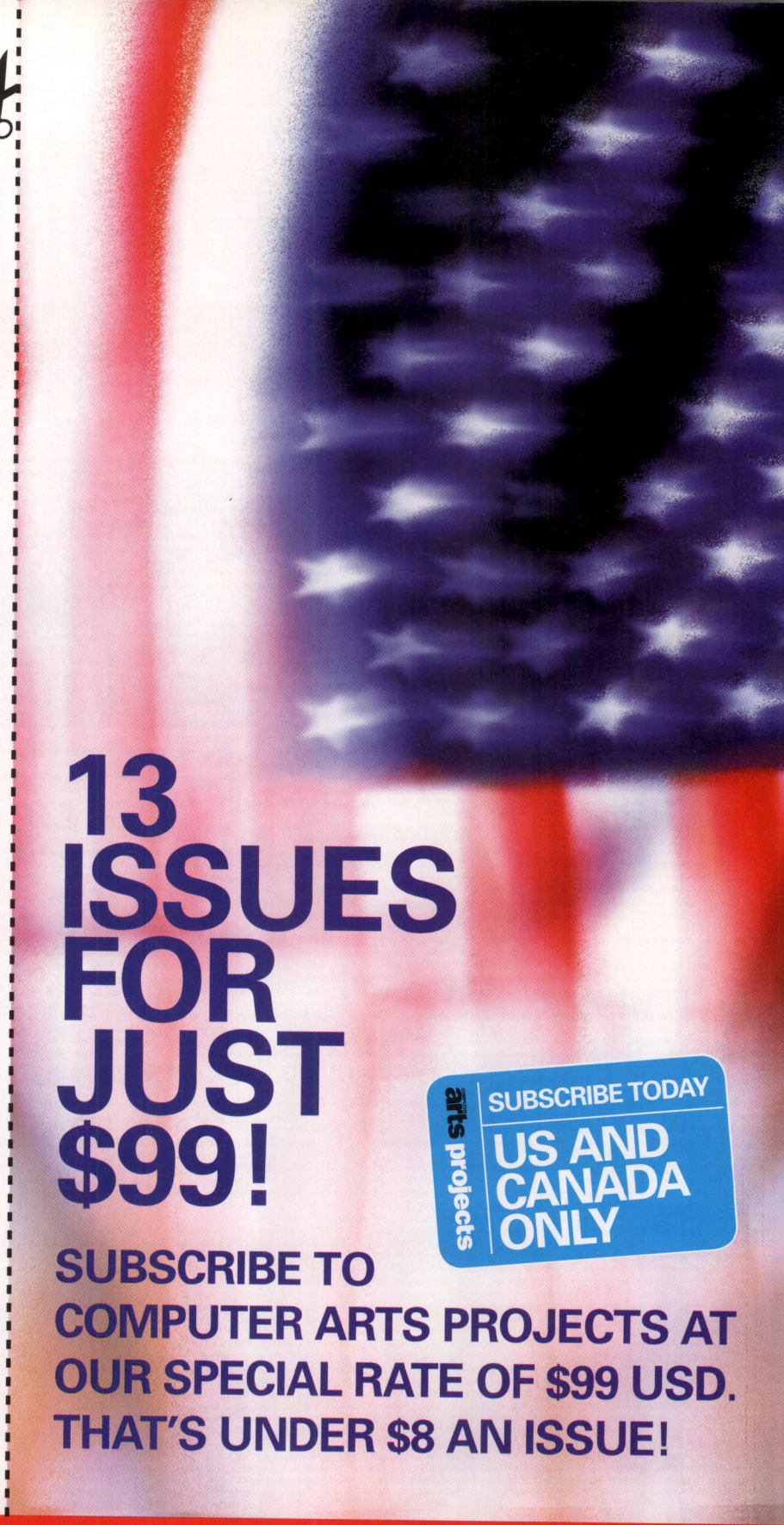

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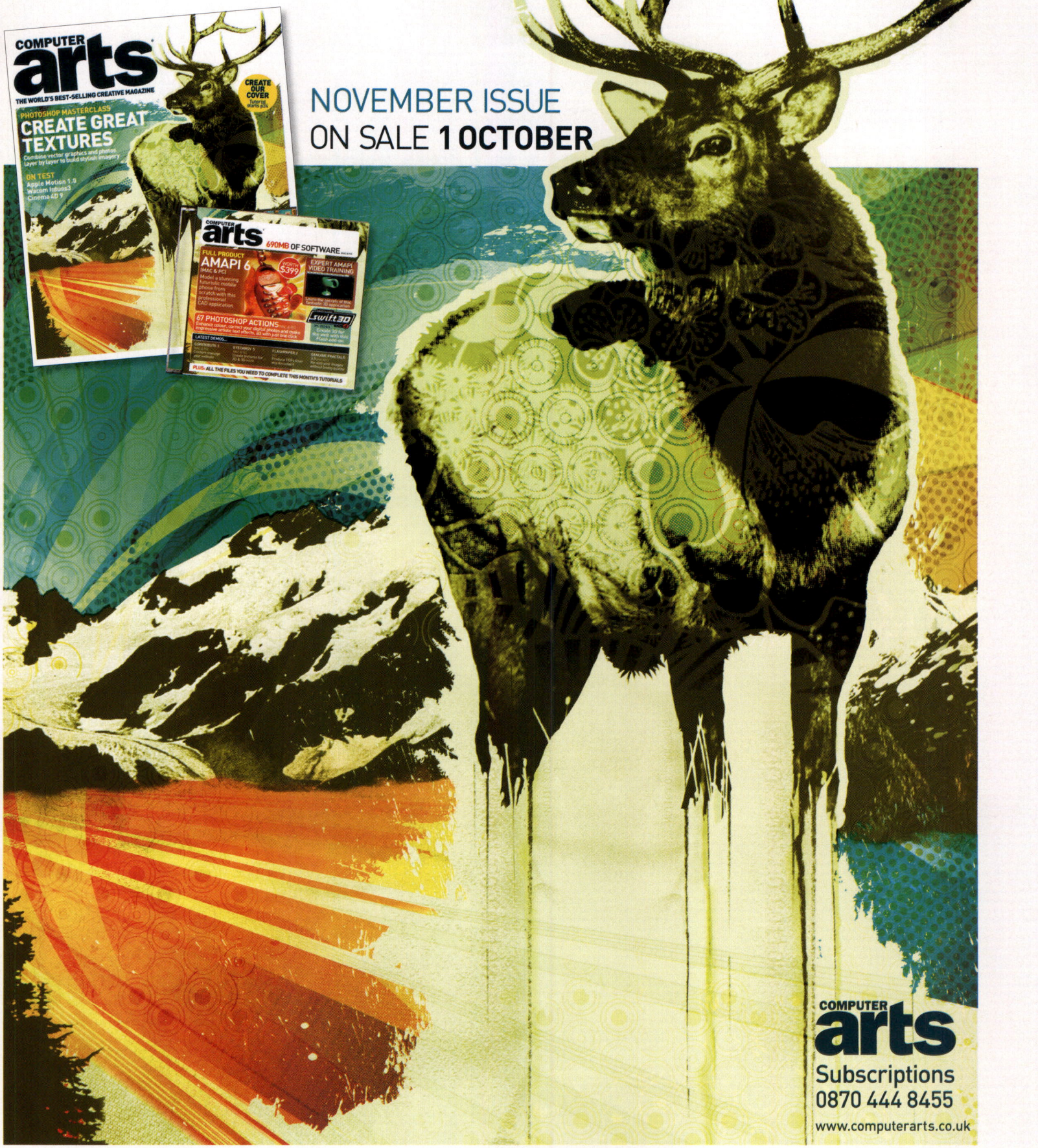
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Modern city composition

Use a rendered 3D image to build a modern cityscape with multiple layers and blur and glow effects...

The following tutorial demonstrates how the image on this page was created in *Photoshop*. The city image source file, which you'll find on the cover CD, was fully rendered in a 3D program. We explain how to bring this into *Photoshop* and use a number of layers to build up the final modern city composition.

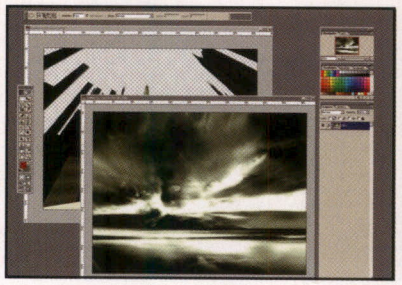
You'll discover the everyday working techniques of our Swedish *Photoshop* expert, Per Gustafson, who made this poster as one of a series called Modern City, which is purchasable from **[w]** www.modernstyle.nu. Creating a composition of this nature is all about experimentation, fantasy and development, so turn over the page and start having fun.

Expertise provided by Per Gustafson, founder of MODERNSTYLE.NU. He is also the founder of Swedish-based internet media company geidemark gustafson, and Creative Director of Sonic Nerve Clothing. Visit **[w]** www.modernstyle.nu and **[w]** www.geidemarkgustafson.nu.

The components needed to complete this tutorial can be found on this month's cover CD in the Software\Tutorials\Tutorial files\Tutorial files\All\Composition folder

Part 1: Creating glow effects

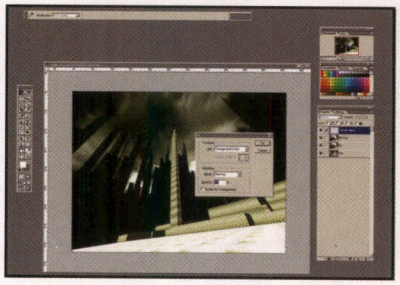
Import the source files and add a glow to the main building...



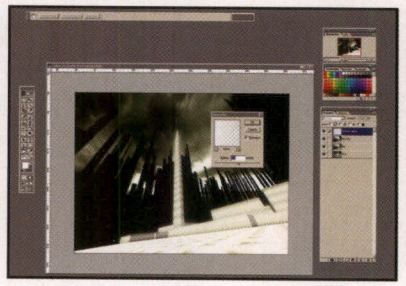
1 Start by opening the background image (sky.psd) and the city render (city.psd) from the cover CD. The city was made in the 3D program *Lightwave* without using any special plug-ins. It's been rendered out as a TIFF image without a background. The background image is a landscape drawn in *Photoshop*.

2 Place the city image onto the sky background. Then duplicate the city layer and experiment with some layer effects to get the best out of the light and shadows. Here, we've chosen Hard Light to make some areas darker and some light areas even lighter.

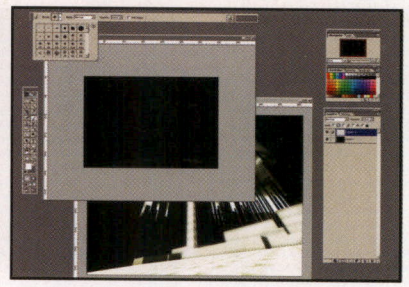
3 The texture used on the 3D city render is pretty simple and plain, but you can add some extra glow to the front buildings. Choose the Polygonal Lasso tool to select the areas you want to make glow.



4 Create a new layer and fill the selected areas with white at 70 per cent Opacity.



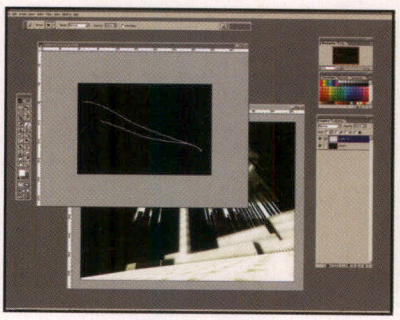
5 To create the glowing effect, use Filter> Blur>Gaussian Blur on the layer, and then adjust the level of the blur. If you think it's too weak, simply duplicate this layer to make the glow stronger; or if there's too much glow, just play with the opacity of the layer.



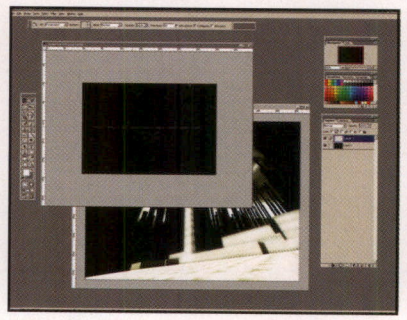
6 Now to the glowing lines in the sky. Create a new image, with a black background layer and a new layer for the lights. There are different ways of making these kinds of lights, one of which is to choose the right sort of brush with an Opacity of 100 per cent.

Part 2: Creating sky patterns

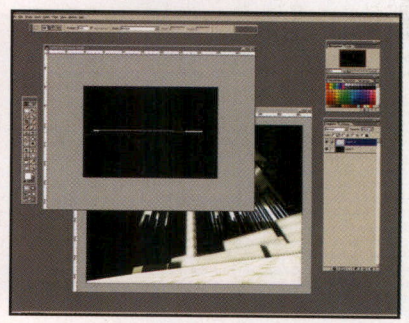
Draw a number of lines to add depth to the sky...



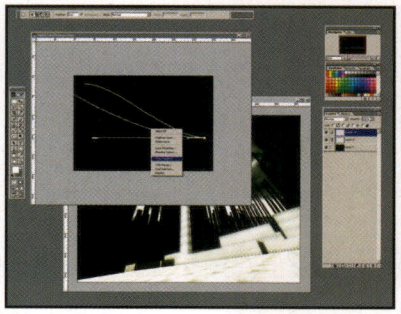
1 Draw the lines as you think they best fit in with the artwork. If you find this hard, just draw a dot, hold down Shift and then draw a dot where you want the line to end. This way you get a straight line, which you can twist later.



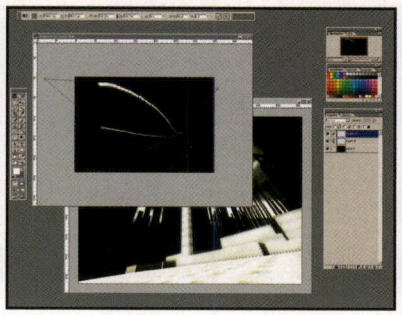
2 Another way of making this light pattern is to use the Rectangular Marquee tool to draw a thicker line and then fill it with white.



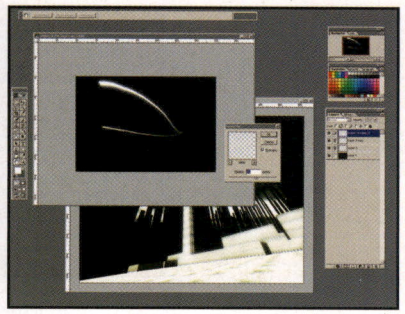
3 Then select the areas with the same tool and remove parts of it to make a pattern or create some depth.



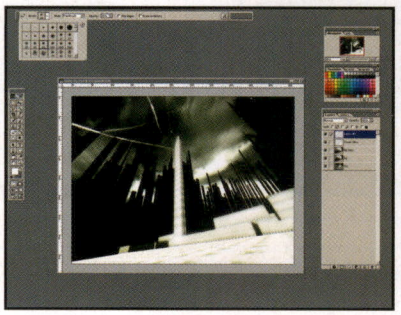
4 You can also use the brush on a new layer to create even more lines. Then link the layers so you can control them both at the same time when you right-click on the image and choose the Free Transform tool.



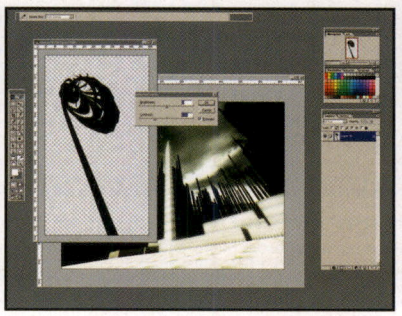
5 Now you can experiment with this tool to give the lines better depth and perspective. The Free Transform tool can blur parts of the image, so be careful when using it or remove these parts with the Eraser tool. We've only used a little perspective here.



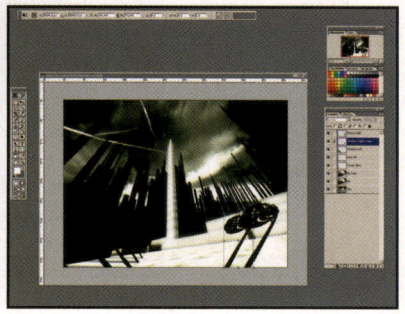
6 Another technique to make these lines become more alive is to merge the two layers after transforming them into your preferred position, and then duplicate this layer and add some blur effects on it. This also makes a glowing effect, which is particularly suited for the sky.



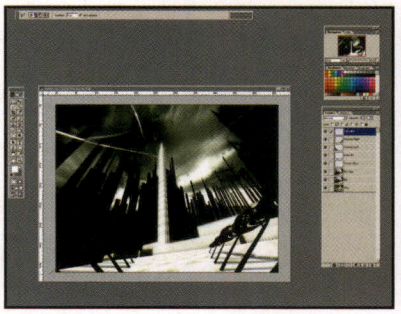
7 The lines you add to the sky give the image more depth. To make them fit better into the space, move them around using the Free Transform tool. You can also use the Eraser tool with a low opacity setting and a fairly large brush to smear out the lines and get them to melt into the sky.



8 Now you can add the 3D symbol statue.psd from the cover CD. This basic abstract shape is used to add additional depth to the artwork. You can also experiment with other elements – here, we've adjusted the brightness and contrast almost to the point where the statue becomes totally black without any highlighted parts.

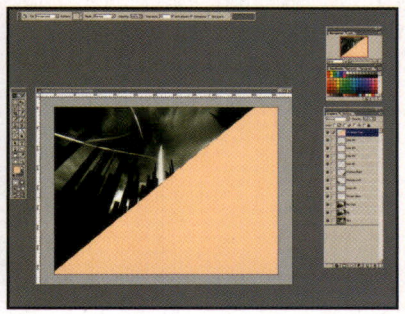


9 We need to do more to give the illusion of yet more depth though, so duplicate the layer and resize the statues.



10 Add two rows of statues to give the impression of a wall. Once again, use the Polygonal Lasso tool to select the statues, then right-click and choose Stroke. Choose the width of the line of statues. Do all this on a new layer called Line #1.

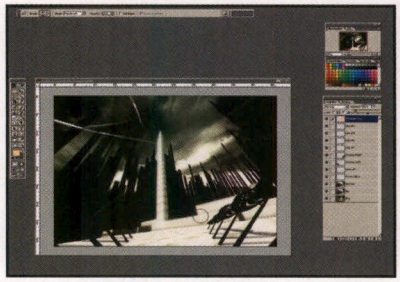
11 Duplicate this layer into as many lines as you want to have, and then use the Free Transform tool to move and rotate the lines into the desired position.



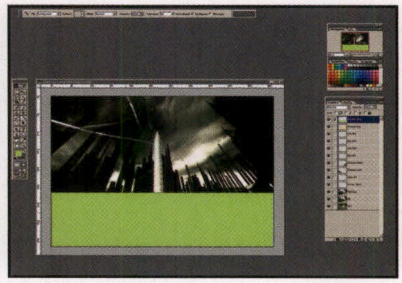
12 Then add a smooth layer of colour to make a wall. Select the area you want to separate with the Polygonal Lasso tool. Choose Fill rather than Stroke to fill the marked area with a colour – we've chosen an orange hue. Make sure this is a separate layer.

Part 3: Using colour

Introduce subtle shades to create a foggy feeling...



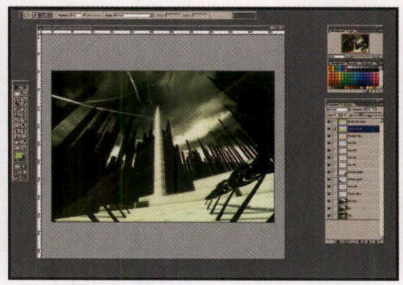
1 Adjust the Blending mode of this layer to Soft Light, and erase some areas with the Eraser tool with a very low opacity.



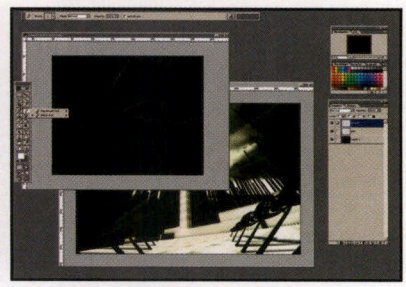
2 Then make another layer half-filled with another colour. This layer will add to the foggy feeling of the artwork and introduce another colour into the composition.

3 Add motion blur to this layer to smooth out the sharp contrast and edge of the layer. It's a good idea to use the motion blur several times, instead of adding too much motion blur effect in the first instance.

4 To make the transition even smoother, use the Free Transform tool to scale the effect of this layer. Then stretch it and move it out of the image. This makes the top visible and the layer pretty transparent without having changed the opacity. This creates a very fine transition. It's advisable to crop the whole image here, so you cut off all parts of every layer outside the artwork.



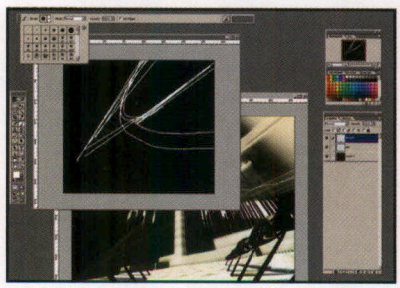
5 Duplicate this layer, rotate it 180 degrees and move it to the top of the image. Then lower the opacity on both layers so that the fog, lights and colours become smooth.



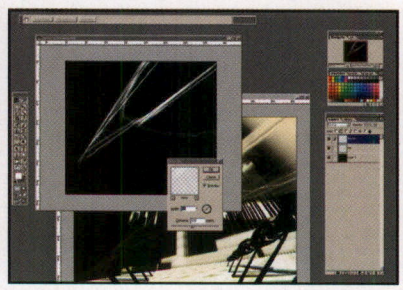
6 Now you can move on to the light and glowing effects. Start on a new document, but still with the artwork and placement of the light in mind. Use the Pen tool and simply draw the curves in which you want the light to appear.

Part 4: Adding blur

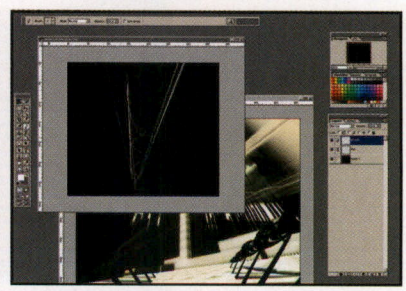
Play around with dramatic motion blur effects...



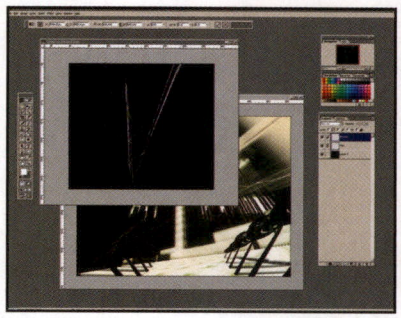
1 Now use varying sizes of brushes for thicker lines with everything set to 100 per cent Opacity. Make two layers for this – one for the pen and one for the brush – so that you can add different effects to each layer.



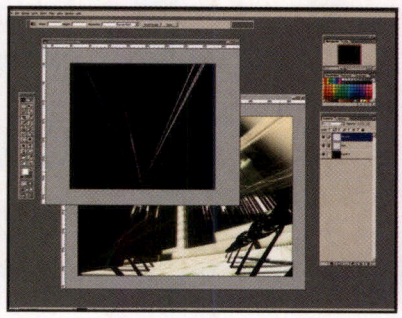
2 Start to play around with blur effects. Now you see why you needed to separate these layers, because if you added the same motion blur to both layers, the pen lines would disappear and the brush lines would get a smooth motion and foggy feeling.



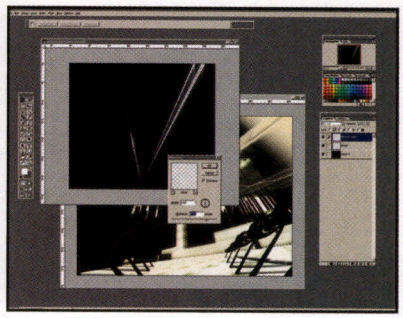
3 Another way of making these kinds of lightning effects is to draw them with different sizes of the pen and brush in very straight lines. If you choose that method, you can make the correct placement of the light in the artwork later.



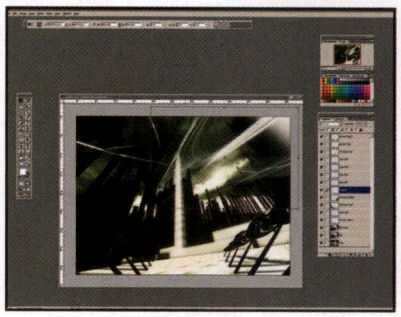
4 Before adding any filters, link the layers and start using the Free Transform tool.



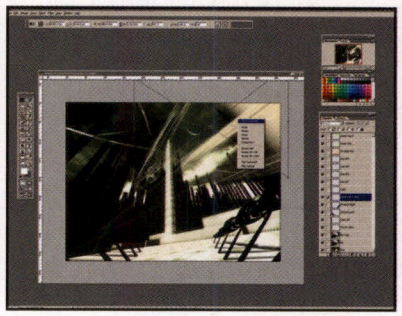
5 To make these lines thinner and sharper, use the Perspective tool. This enables you to create better depth and perspective, and transform the light into the area you want it to appear.



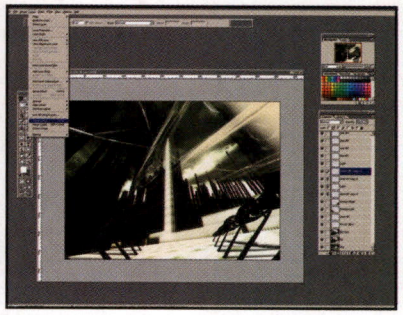
6 Then merge the layers, duplicate them and add filters and effects. Once again, the blur effect is useful for making the lights more alive and glowing.



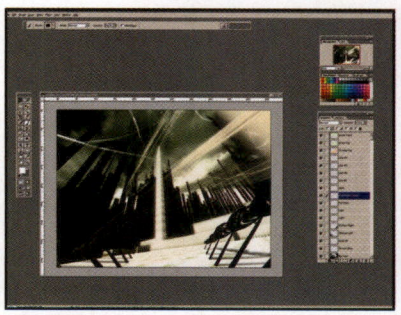
7 Now bring the light effects into the artwork. If you find it too weak, simply duplicate the layer until it's right for the composition and then merge the light layers. You can still tweak it with the Free Transform tool, and even add some more blur.



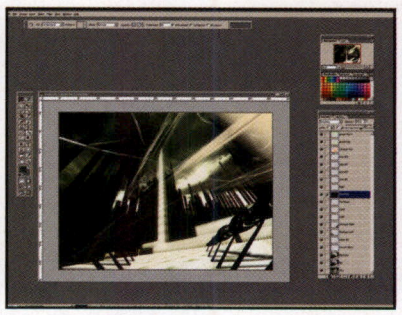
8 Next, add some details, lights and create a more lively sky. This time you can use the old Lines #1 layer, and simply duplicate it and then Free Transform it in the right top corner of the image above the other layers.



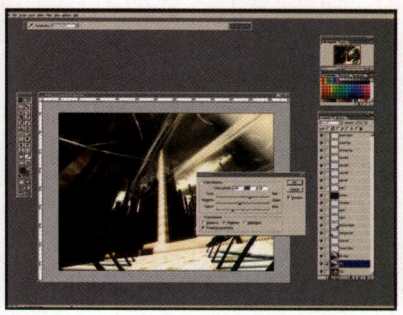
9 Duplicate this layer a couple of times and then transform and change the position of the lights until you get an interesting composition. Merge all these light layers. This is a part of the experiment, and one of the finishing touches of the artwork.



10 Another detail effect you can use for this image is particle glow. In a new layer, use a selection of different sized brushes to create some dots around the lights. Duplicate this layer and add blur on the new one to get glowing particles. You can also play with the opacity of layers to get the desired effects.



11 You can increase the contrast to darken the sky and some areas of the city. Add a layer filled with a dark colour, and then experiment with the layer effects, the order of the layers and the opacity. Choose the Multiply effect on this new layer, place it below the coloured wall and some light layers with a low opacity. This kind of layer makes it easier to control the light and brightness of the whole artwork.



12 The last thing to do is adjust the colours. We ended up with three posters as a result of this project, all in different colour schemes. You might prefer to merge all the layers and then adjust colours with one layer and layer effects, but to get more variations and add life to the composition you should adjust it layer by layer. ca+p

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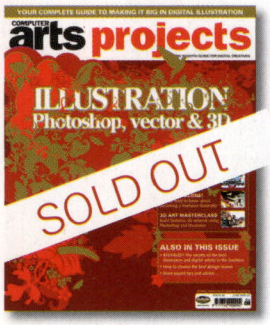

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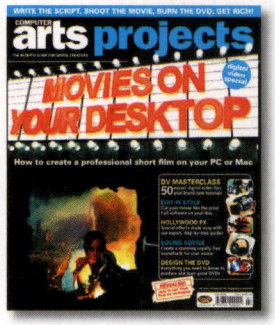

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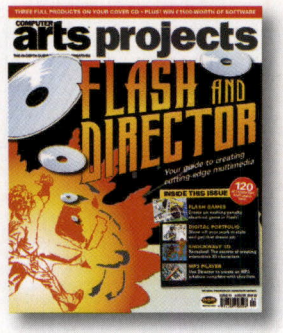

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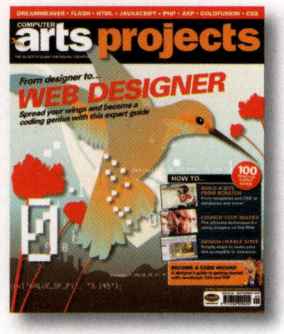

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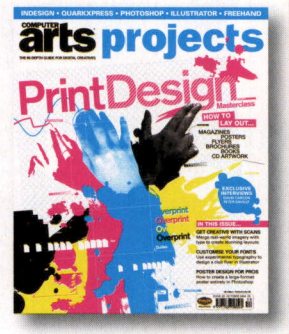

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Computer arts

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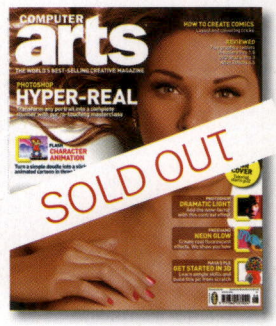

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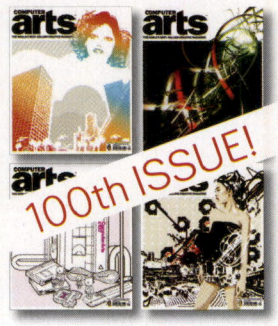

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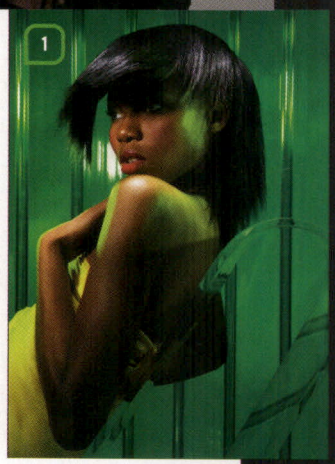
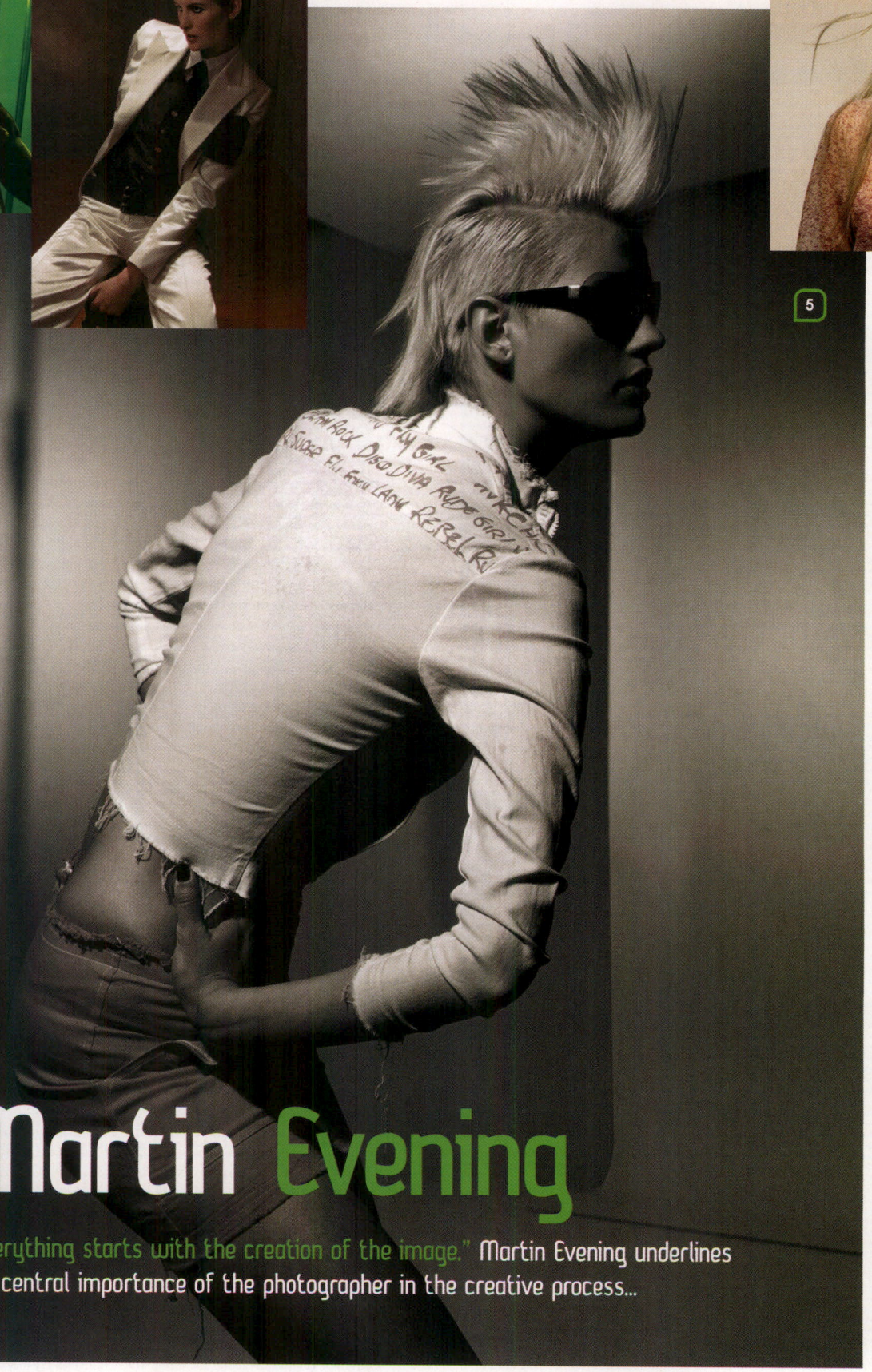
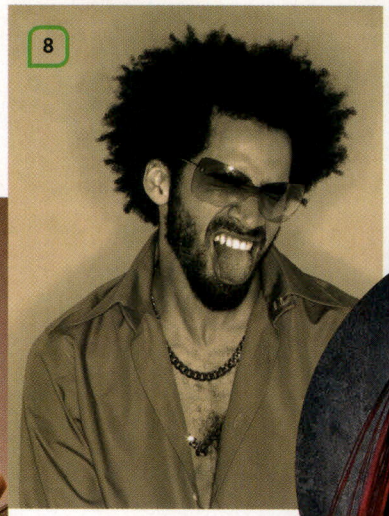
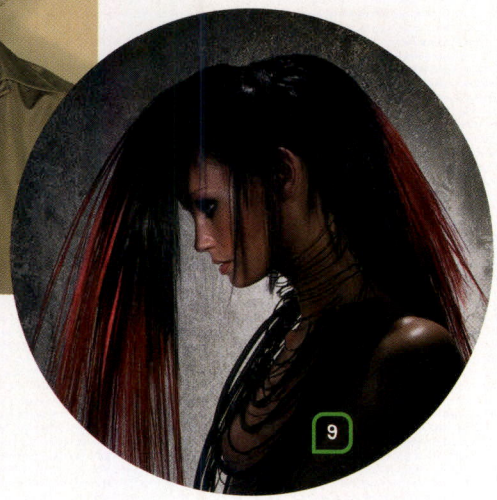




Martin Evening

"Everything starts with the creation of the image." Martin Evening underlines the central importance of the photographer in the creative process...





As the author of the *Photoshop for Photographers* series and one of London's leading hair and fashion photographers, Martin Evening neatly bridges the gap between image generation and manipulation.

Blending these two disciplines has helped Martin develop his client base to include some of the UK's top hair salons such as Errol Douglas and Glasgow's Rainbow Room alongside international names such as Schwarzkopf. "Enterprising photographers," he says, "realise that digital technology offers them the opportunity to provide more services than they did before and maybe manage more of the creative process as a whole."

When he finished studying photography at college in Salisbury, all he wanted to do was go to London and become an assistant. This turns out to have been a good plan: "The first day I arrived in London I met a fashion photographer," he explains, "and a few days later I had a day's trial assisting on a hairdressing shoot for Toni & Guy."

Following this try-out, Martin landed a full-time position and, looking back, sees the hand of fate at work: "Based on what happened in those few days, my entire career path was decided," he says. "I've gone on to become established as one of the leading hair photographers in the UK."

The right style

As with most young artists, Martin began to think about style early on in his career: "I tried hard to find a style but could never pinpoint what it was," he says. Then one day, there it was, a style of his own. Martin explains it like this: "I understand better now – it comes from years of experience, it's something quite instinctive." In other words, style is something to be grown into rather than consciously developed: "I bring to each job an accumulation of everything that went before."

In this picture, the technology comes second: "Don't let yourself get too hung up on the equipment – the camera is just there to record what you're seeing." It's a technical subject, there's no mistaking that, but, Martin states, "However techie you want to get when you shoot, keep within your limits and don't let yourself get too distracted." Keep the technical stuff to a level you can easily manage because, Martin warns, "The best shots will happen when you're fully alert to the subject you are photographing."

Going digital

"Shooting digital is *so* different from shooting film." According to Martin, the photography business has changed a lot in the last few years: "Less photography is commissioned directly and more is bought via picture libraries. Some sectors of the photo industry have gone totally digital and if you don't shoot digitally, you don't get the work."

"I would say the toughest aspect of working digitally," says Martin, "is not colour management but image management." The freedom which digital capture offers in terms of its immediacy means that a huge number of shots will be taken: "There isn't always time on a shoot to stop, sit down with the client and analyse the 500-plus shots I take." Typically, these will be whittled down to between six and eight, so that process has to be tightly regimented.

Raw pixels

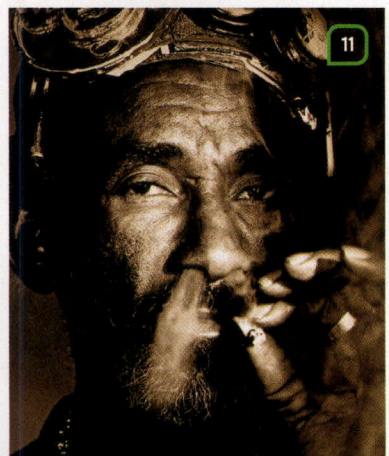
Martin begins to outline his working routine: "I like to shoot digitally with the Canon EOS 1Ds. I will carefully set up the exposure tests to be as bright as possible. I don't rely on the camera histogram as this is a false indication of what the raw file exposure is really like."

Bearing in mind his earlier caution about not being too technical, these comments put things in perspective: "The camera histogram is based on an internally processed JPEG and not the true raw data." You clearly have to know when to draw on the technical and when to step on it. In other words, be flexible.

On the whole, Martin favours a minimal intervention policy when it comes to digital manipulation. By way of explanation saying: "I think one can sometimes get a little too lost in trying to make an image look different unless your approach is properly thought through beforehand."

Despite all his obvious technical skill, Martin asserts that some of the most important photographic skills don't involve focal lengths and technical gadgetry at all: "I think it's probably less about the lighting and more about being able to work well with your subjects," he explains. "You have to put them at ease and have the right instinct of where to place the camera." After all, it all starts with the image. ca-p

To see more of Martin's fashion and portrait photography, visit **[w]** www.martinevening.com.



1, 3 & 4. Martin now shoots most of his work digitally, as with these images for Errol Douglas at the British Hair Awards. "If there is a hot issue for me right now," he says, "it's the lack of a standard raw camera file format. It's a crazy situation." The move away from film is less than smooth.

2 & 9. These images for the JFK salon in Edinburgh show off Martin's skills. "The face retouching is critical," he says. "But I don't believe in making women look like Barbie dolls." As a result, he usually fades the skin-tone work back by as much as 80 per cent.

5. Martin's well known for his hair work, which makes him a logical choice for product giants such as Schwarzkopf when a photoshoot is called for. His secret: "The trick is to leave enough strays and errant hairs to make the hair look good, but natural."

6 & 7. The Glasgow salon, Rainbow Room, is a regular client for Martin, and these images are culled from his work on their last two collections. A regular shoot with the aim of getting less than ten final images will usually turn in more than 500 originals.

8. Photography is a competitive business, and you need skills to deploy when you're away from the lens, as Martin explains: "It probably comes as a big surprise to many photographers just how much they're being judged on themselves as a person rather than the quality of the pictures they shoot." This image was taken for the Anita Cox salon in London.

10. Martin's advertising work is on the up, as this piece for the BBDO agency shows: "The image was designed to convey the message of what it would be like to be a fish breathing water polluted by acid rain in which the oxygen levels are depleted."

11. Among his portrait work, Martin has photographed dub legend Lee Scratch Perry for *Zig Zag* magazine. "He performed silently, and I just carried on shooting." Martin recalls that, "At one point he picked up one of my 2K heads, wrapped the live cable around his neck and chewed on it!"

Batch processing your images

Discover the power of *Photoshop's* Automate sub-menu. It can, as the name suggests, save you a whole lot of time...

The Automate features of *Photoshop* are possibly the most understated features of the application. Anyone wanting to process multiple images should have a thorough knowledge of the tools available. The idea of the main chunk of the File>Automate menu is to work with actions in order to automatically apply a change – whether it be size, resolution, colour mode, filter effect or other operation – to a series of images.

Photoshop's Batch operation tools also enable you to rename files as you modify them, and you can specify folders and sub-folders of images you want to make changes to. In fact, in terms of automation, you have the entirety of *Photoshop's* actions feature set at your disposal. You can even create small, standalone applications from the Automate menu, known as Droplets. Droplets literally enable you to drag and drop either multiple files or folders and sub-folders onto them and sit back and let *Photoshop* process the images according to the action you specified. It's incredibly powerful – read on and learn how to master the Automate sub-menu.

Words by Rob Carney. **[e]** rob.carney@futurenet.co.uk. Illustration by Joost Korngold **[e]** jk@renascent.nl.

Batch Processing CA

Clublime Paula Photoshoot

Part 1: Batch processing

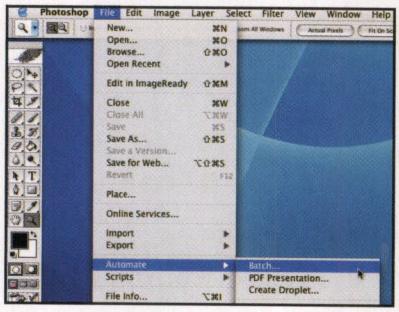
Photoshop's batch-processing tools make applying changes across multiple images easy...

Managing actions

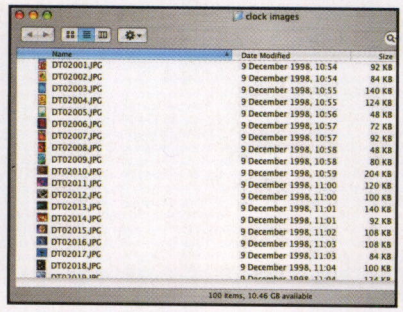
Make sure you always save your actions into sets and give both the set and action a memorable name. Someone else may be running these commands one day, so help them to know what they're processing.

Save as

If there's no save command in the action you specify in the Batch processing dialog, you'll need to set this up in the Batch dialog. If you don't, nothing will be saved. Make sure the Override Action 'Save As' command is switched off. However, it can be on if you've specified a Save As command in the action.



1 When you have a large amount of images that all need the same thing doing to them, the last thing you want to do is open each one and apply the changes individually. Luckily, *Photoshop* has some superb tools for automating changes across a huge number of images.


clock images
Name
Date Modified
Size
DT02001.JPG 9 December 1998, 10:54 92 KB
DT02002.JPG 9 December 1998, 10:54 84 KB
DT02003.JPG 9 December 1998, 10:55 140 KB
DT02004.JPG 9 December 1998, 10:55 124 KB
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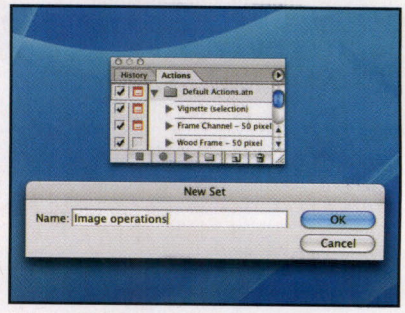
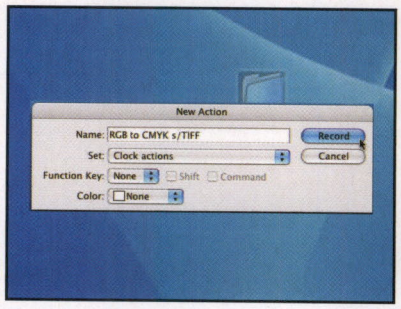
DT02011.JPG 9 December 1998, 11:00 120 KB
DT02012.JPG 9 December 1998, 11:00 100 KB
DT02013.JPG 9 December 1998, 11:01 140 KB
DT02014.JPG 9 December 1998, 11:01 92 KB
DT02015.JPG 9 December 1998, 11:02 108 KB
DT02016.JPG 9 December 1998, 11:03 108 KB
DT02017.JPG 9 December 1998, 11:03 84 KB
DT02018.JPG 9 December 1998, 11:04 100 KB
100 items, 10.46 GB available

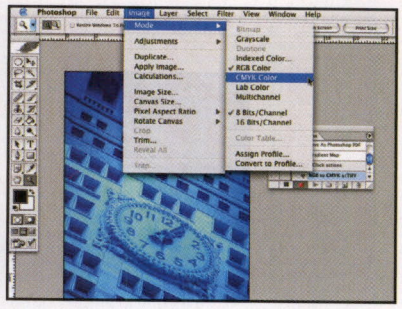
2 Here we have a folder containing 100 JPEGs that are all RGB. However, we need each one to be converted to CMYK and saved out as a TIFF file. The first thing to do is set up an appropriate action in *Photoshop*.



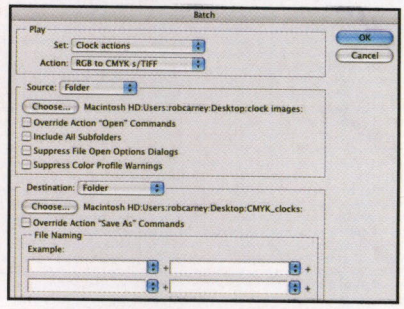
3 Go to the Actions palette and, using the options dropdown, create a New Set. Name this appropriately. Select the set and choose New Action from the same menu. Again, give it an appropriate name.



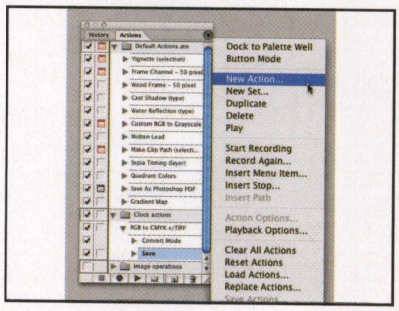
4 Create a new folder on your HD – this will be the destination for your new files. Then hit Record back in *Photoshop*. Next, in the Actions palette hit the stop button. Open one of your original images and then hit the red record button in the Actions palette. It's important to open your image after you hit Record – otherwise this open command will be included in the action.



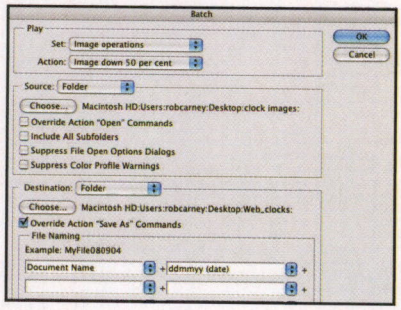
5 Change the colour mode to CMYK by going to Image>Mode>CMYK and then go to File>Save. Choose TIFF in the file type dropdown and leave the rest of the options as they are. Save the image in the new folder you created earlier.



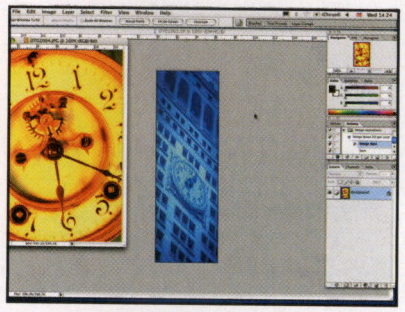
6 This is where the fun starts. Go to File> Automate>Batch. In the Play section of the dialog, choose the set and action you just created. In the Source area, choose the folder with your original images. In the Destination area, choose the folder you created earlier. Hit OK then go and do something else (or sit and watch *Photoshop* make changes to all your images). You can stop the batch operation at any time by hitting the stop button in the Actions palette.



7 Let's create a New Action and Batch command, this time to adjust the image size by 50 per cent and save each image out with a different, recognisable file name. The first thing to do is create your action. Make sure you save the file into a new folder (again, appropriately named).



8 Go back into the Batch dialog and choose the set and action as you did earlier. This time, use *Photoshop's* Batch command to rename the files with a date extension. Choose 'Override Action "Save As" Commands' and choose an extension that seems appropriate. We've chosen ddmmyy.



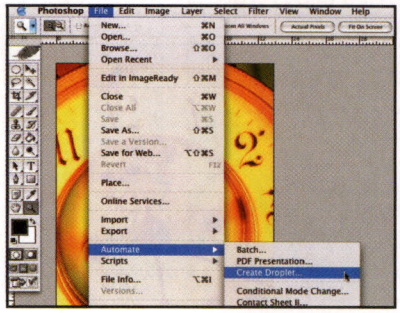
9 Hit OK and the batch will not only change your images according to the action you specified, but also rename your files accordingly. It's probably one of the most underused elements of *Photoshop* – you can apply a batch to run any action, and use an action to automate almost any command.

Part 2: Droplets

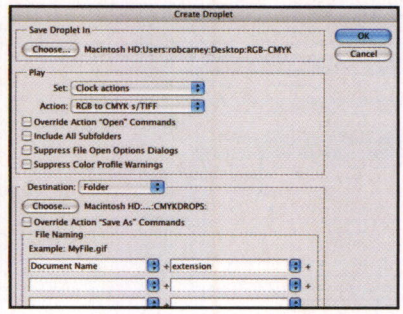
Droplets are an even easier way of applying changes to images quickly…

Filing droplets

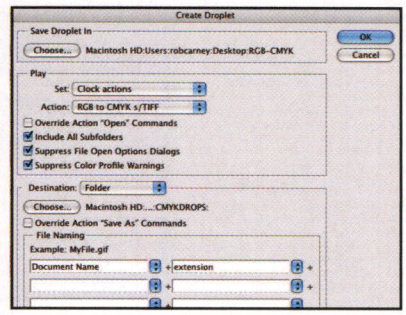
It's a good idea to keep all of your droplets in the same place. It sounds obvious, but having an organised file structure will help you keep track of the droplets. You could always put them in your dock as well (in OS X) because they're simply standalone applications.



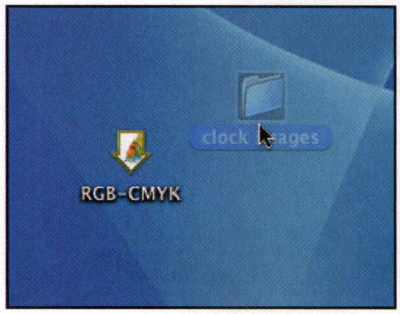
1 Droplets do the same thing as the Batch command, but make it even easier to apply actions to multiple images. In *Photoshop*, create a new action (or use the one you created earlier) and go to File>Automate>Droplet.



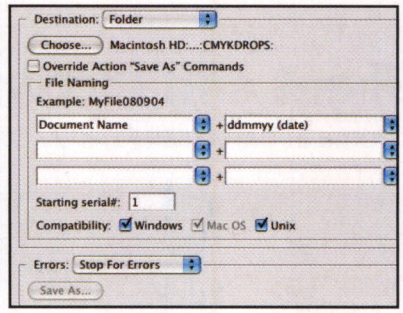
2 The dialog that appears is similar to the Batch dialog. First, you need to save out your droplet to the desired location. Choose a name for your droplet and save it to your desktop. This droplet is simply an application that triggers an action.



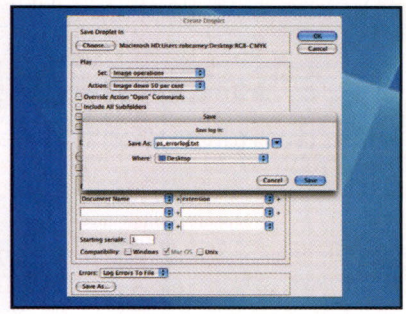
3 Choose the Set and Action in the Droplet dialog and pick a Destination. In the same way as in the Batch dialog, you can choose to ignore colour space and file open dialogs and warnings, as well as include sub-folders.



4 Drag an entire folder of images onto the droplet, and watch *Photoshop* process the images. If you've checked the Include Subfolders box in the Droplet dialog, *Photoshop* will (rather obviously) process sub-folders within the folder.



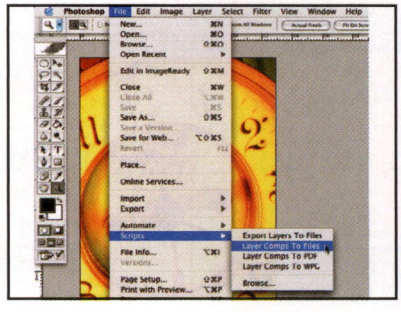
5 Again, like the Batch command, you can specify a new file name and extension for your converted images, as well as specify file compatibility (Mac, Windows, Unix).



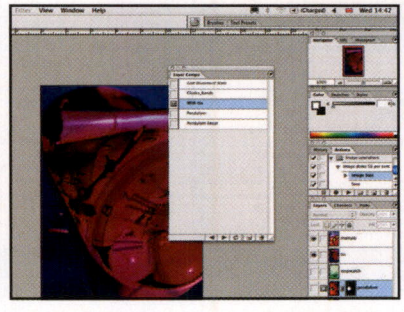
6 If your droplet encounters any errors when processing images, *Photoshop* stops the action. If you want it to carry on regardless, log these errors to a file and save it as a text file in a specific location. Use the Errors dropdown in the Droplet dialog to set this up.

Part 3: Scripts

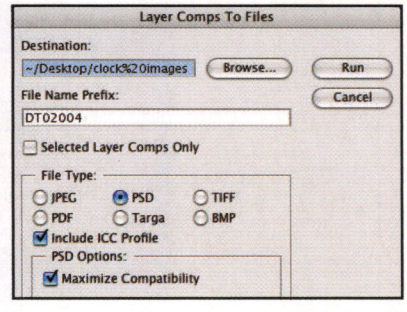
Photoshop CS supports AppleScript, JavaScript and Visual Basic – all can automate frequently used tasks…



1 In the File menu, go to the Scripts sub-menu. Here you'll find a small selection of scripts that enable you to automate various tasks from within *Photoshop*. One of the handiest supplied with the program is the 'Layer Comps To Files' scripts.



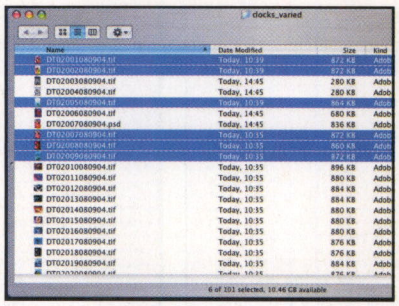
2 This image has a number of Layer Comps. To export each one as an image would take a long time, and involve copying and pasting a lot of layers and saving out a lot of files. Luckily, in one command you can export each Layer Comp as a file.



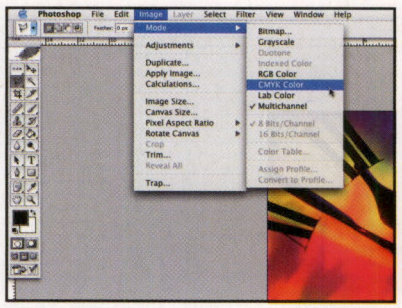
3 Simply go to File>Scripts>Layer Comps To Files. In the dialog that appears, choose a file name and prefix, specify a destination and choose a file format. That's it! Browse for more scripts in the *Photoshop* application folder on your HD.

Part 4: Conditional

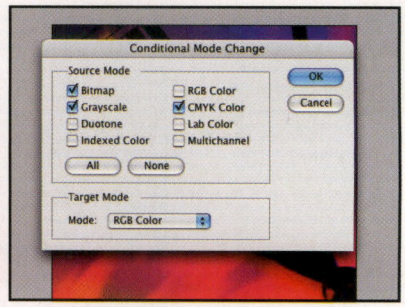
Use this little-known automation option to change multiple image modes within an action quickly…



1 A nifty *Photoshop* automation option is Conditional Mode Change. This enables you to specify conditional colour mode changes depending on your source images. Here we have a folder of images that includes images with greyscale, CMYK and Index modes.



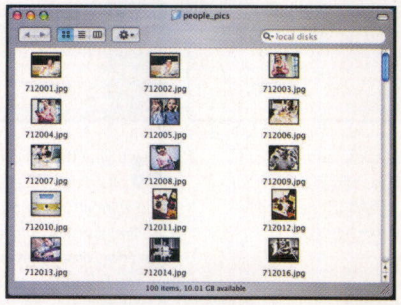
2 If we were to run an action wanting to convert all of these to RGB using the Image>Colour Mode command as part of an action, *Photoshop* would throw up an error, because the source colour modes are not the same on each image.



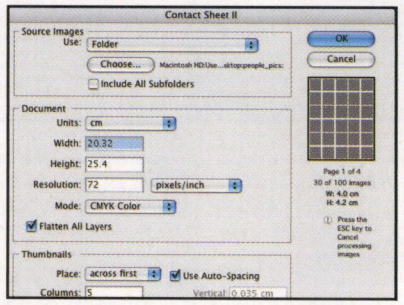
3 Get around this by using the Conditional Mode Change option from the Automate menu when recording an action. In this case, select Greyscale, CMYK and Bitmap in the Source Mode, and RGB in the Target mode. Then continue with other operations and set up your batch as discussed earlier.

Part 5: Contact Sheet and Picture Package

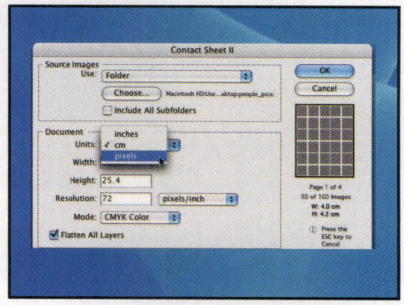
These two automation features come in particularly handy for photographers…



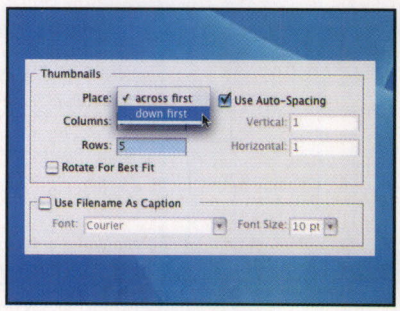
1 Contact Sheet II is a handy utility in *Photoshop* that enables you to create a contact sheet, giving you precise control over the number of images, spacing and output type. Here we have a folder of images that we want to show a client.



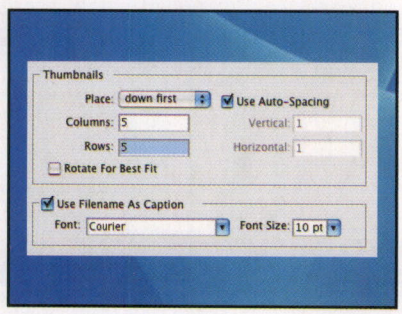
2 Go to File>Automate>Contact Sheet II and in the dialog take a look at Source Images. Use the Browse button to navigate to the folder on your HD and uncheck 'Include All Subfolders'.



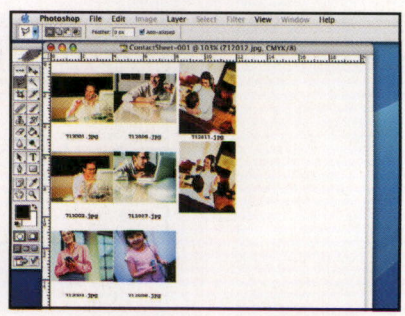
3 In the Document area of the dialog, specify the size, units and resolution of your contact sheet and ensure the 'Flatten All Layers' box is checked. You could leave this unchecked if you wanted to manually shift thumbnails around at a later date.



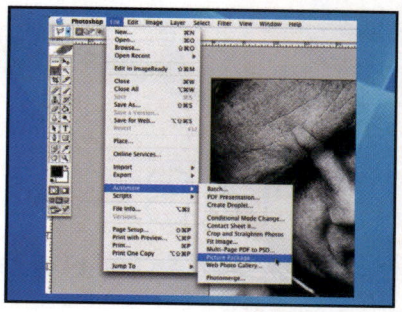
4 In the Thumbnails section, you can specify whether the thumbnails run across or down first, and also the columns and rows. We've gone with five rows and five columns without the 'Rotate For Best Fit' option checked.



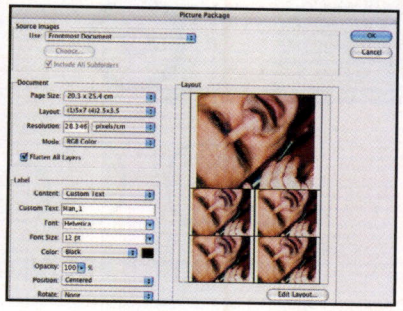
5 Finally, check the 'Use Filename As Caption' box and choose an appropriate font and font size. In the top-right of the dialog, you'll see a preview of the layout of your contact sheet. Underneath this preview, *Photoshop* displays the amount of pages as well as how many images there are on each page.



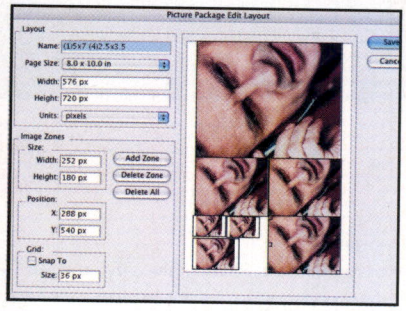
6 Hit OK then sit back and watch *Photoshop* create a contact sheet for you. Bear in mind that at any time during the process you can hit Escape to stop the contact sheet being created.



7 Picture Package is a tool that enables you to quickly print multiple images on one page directly from *Photoshop*. With the image you wish to print selected, go to File>Automate>Picture Package.



8 This enables you to specify paper size, add labels and change colour modes. You can also choose a folder to lift images from, or select a file directly from your HD. In the Document section of the dialog, the Layout presets enable you to change the positioning of the images on the page.



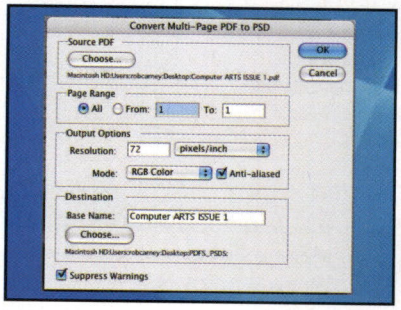
9 To edit the layout, click the Edit Layout button below the main preview and scale the images accordingly. You can also click on an image to import a new file into that particular space. It's a handy tool if you need a quick printout of multiple files without using a layout application.

Part 6: PDFs to PSDs and more

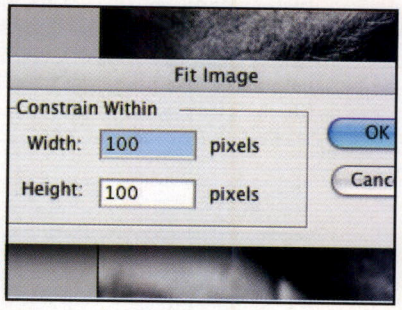
Exploring more of *Photoshop's* Automation commands...

PDF presentations

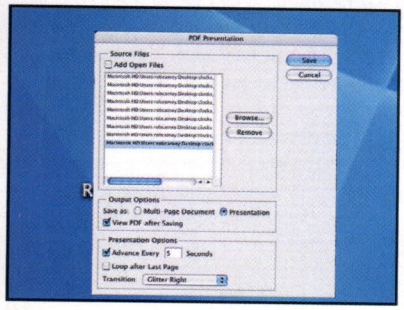
After exporting a PDF presentation, you can open them in *Acrobat Pro* and use the new roundtrip editing features to edit the images and automatically update the PDF file. You can also export the images directly from the PDF presentation and print the pictures.



1 Another handy tool in the Automate menu is the Multi-Page PDF to PSD. When you want to open a PDF in *Photoshop* you're presented with a dialog prompting you to specify a page to rasterise. This option creates multiple files from one PDF.

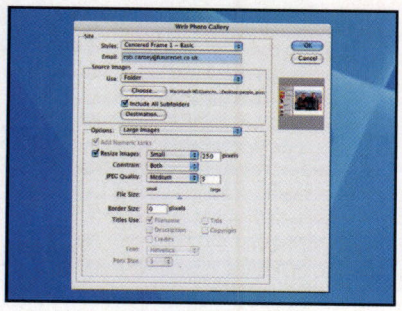


2 Fit Image is a similarly useful command. This is simple in its operation, fitting the currently selected document to a specified size without affecting the aspect ratio. It will, however, resample the image.

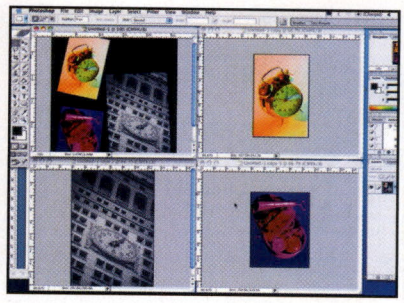


3 PDF Presentation is great when a client asks for a slideshow of images and you haven't got access to *Acrobat*. Open up the dialog from the Automate menu and either choose new files from your HD or add open files (or both).

4 In the Source Files dialog you can drag and drop the files into any order. In the Output options, specify the file as a Multi-Page PDF or a Slideshow – and if it's the latter, type in the number of seconds you want it to hang on an image. Hit Save, specify a file name/path and you're done.



5 Web Photo Gallery is also useful for quickly uploading files to the Web in a presentable form. To use this, simply choose a folder of images, specify a theme (you get a preview to the top-right of the dialog) and then go through the options choosing colours, security and image sizes.



6 The final significant Automate command is Crop and Straighten. This enables you to select a folder of images (that have usually been scanned in) and crop and straighten them automatically. It's not rocket science, but it works well enough. cap

COMPUTER arts projects INTERACTIVE

CD CONTENTS AT A GLANCE

buZZ Lite
FULL PLUG-IN (PC and Mac OS 9): Worth £45. Use this fantastic *Photoshop* plug-in to quickly transform your digital images into works of art.

Textures
FREE TEXTURES: Over 100MB of photo textures (that's 82 photos in total) from The Plugin Site. See **[w]** www.thepluginsite.com for more.

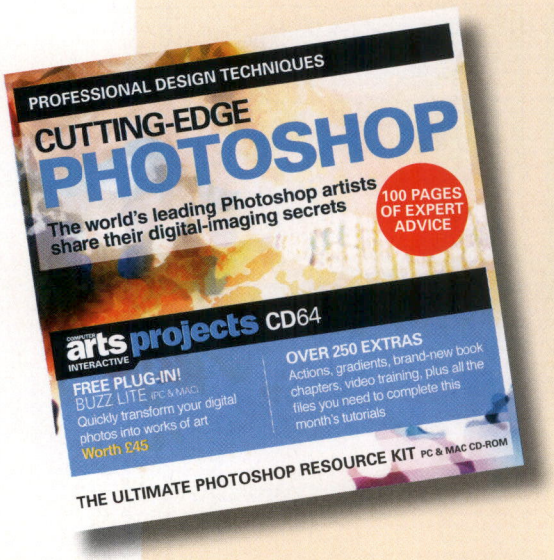
Gradients
FREE GRADIENTS: A collection of gradients for *Photoshop 6, 7, CS* and *Elements*. Use these in layer effects and gradient maps, as gradients, fills, textures and more. See **[w]** www.graphicxtras.com.

Actions
FREE ACTIONS: A huge collection of actions to speed up your *Photoshop* workflow. Use them to create textures, buttons, borders and more.

Book chapters
BRAND NEW CHAPTERS: A selection of chapters from the following titles: *Digital Photography Hacks, Digital Photography: Expert Techniques* and *Photoshop CS 1 on 1*.

Video training
FREE VIDEO TRAINING: Experience these sample training videos from Mark Monciardini's DVD *101 Totally Awesome Photo Tips in Photoshop CS*.

Tutorial files
All the files you need to complete our tutorials.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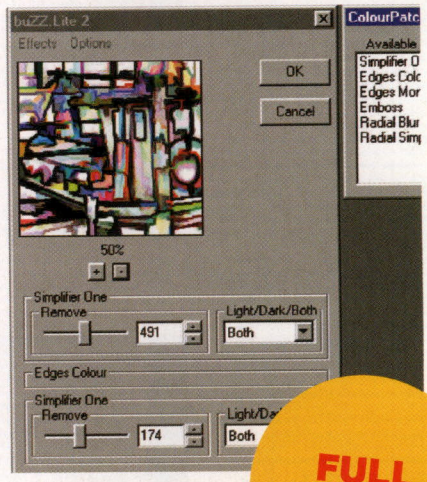
Actions, gradients, brand-new book chapters, video training, plus all the files you need to complete this month's tutorials
THE ULTIMATE PHOTOSHOP RESOURCE KIT PC & MAC CD-ROM

CD Contents

This month's line-up of software, video training and templates...

buZZ Lite

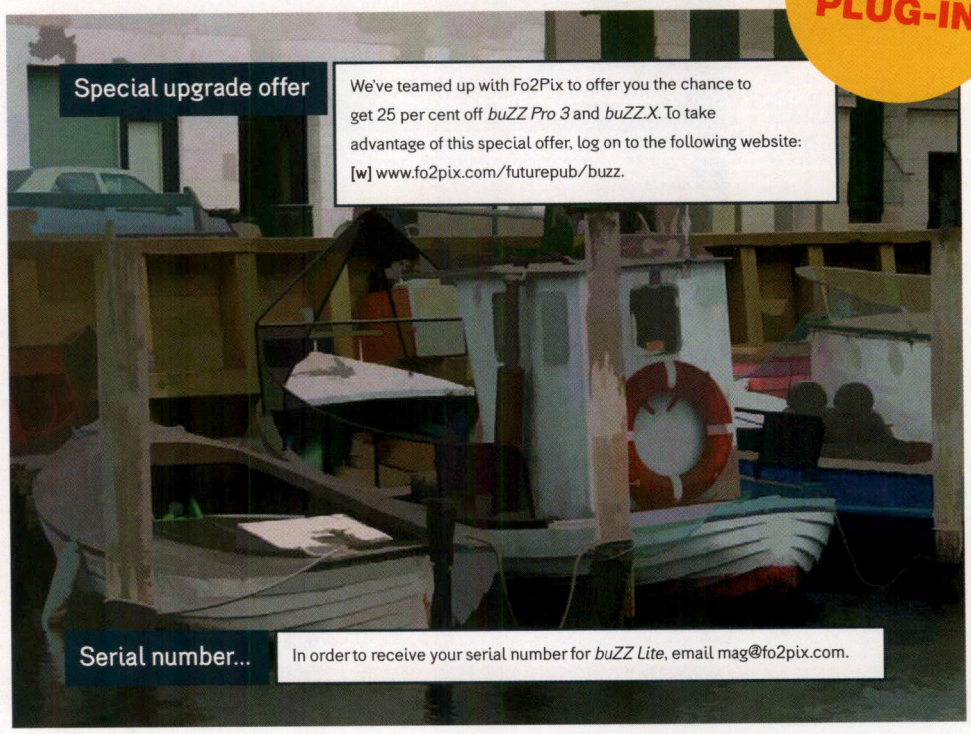
Transform your digital photos into works of art...



This full version of *buZZ.Lite*, worth £45, comes with six effects, and is also shipped with three pre-set Stacks: Oil, Watercolour and Colour Patches. The six effects included here are: Simplifier One; Edges Mono; Edges Colour; Emboss; Radial Blur; Radial Simplifier.

The buZZ range consists of four PC and Mac-compatible *Photoshop/Paint Shop Pro* plug-ins and each buZZ plug-in contains at least one version of the 'Simplifier'. The Simplifier is a filter that simplifies images and removes unwanted detail from an image without blurring, distortion, loss of focus, colour, and edges, thus retaining the all-important features. Check out the special upgrade offer below. Please note that the Mac version of this plug-in is for OS 9 only.

FULL PLUG-IN



Special upgrade offer

We've teamed up with Fo2Pix to offer you the chance to get 25 per cent off *buZZ Pro 3* and *buZZ.X*. To take advantage of this special offer, log on to the following website: **[w]** www.fo2pix.com/futurepub/buzz.

Serial number...

In order to receive your serial number for *buZZ Lite*, email mag@fo2pix.com.

Also on the CD...
You'll find all the source files you need to follow this month's *Photoshop* tutorials in the Software/Tutorial files folder on your cover CD. See individual tutorials for specific file locations.

OVER 250 EXTRAS

The ultimate Photoshop resource

Actions, gradients, textures, and new book chapters to help you master *Photoshop*...

This month, we bring you a packed *Photoshop* resource, containing more than 250 add-ons and extras for the world's favourite image-editing software.

First up is 100MB of photo textures (that's 82 photos in total) from The Plugin Site. The full Photo Galaxy 2300 product contains 1.4GB of textures (950 photos sorted into 118 categories). See **[w]** www.thepluginsite.com for more.

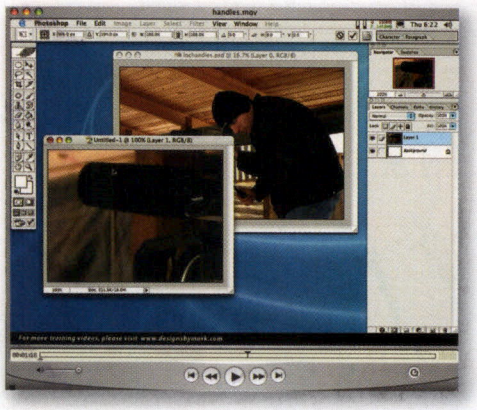
Next up, there's a fantastic collection of super colour gradients for *Photoshop 6, 7, CS* and *Elements* from graphicxtras.com. They're from a collection of hundreds of gradients that can be used in layer effects and gradient maps, as gradients, fills, textures and much more.

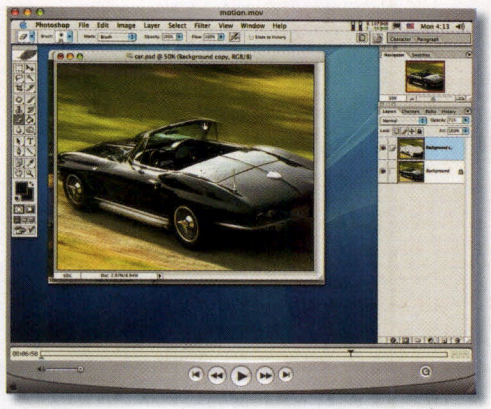
Photoshop actions can really speed up your workflow, making repetitive creative tasks easy to reproduce. Creative Madness has provided us with its entire collection of actions. These include actions for creating background textures and tiles, buttons and more. We also bring you a great set from Photoshop Action! enabling you to create filmstrips, photo borders and so on.

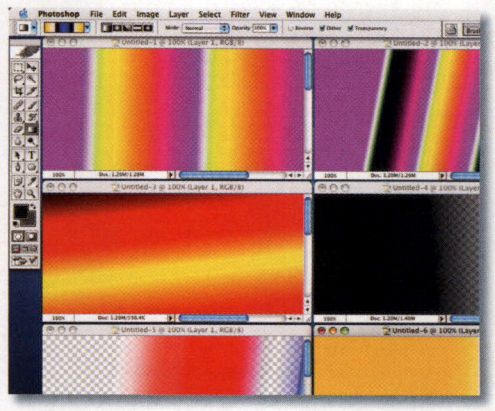
Then we have a series of chapters from three fantastic *Photoshop* books. First, there's *Digital Photography Hacks*. This book shares the knowledge that professional photographers have learned through thousands of shots' worth of experience and years of experimentation. And we have a sample chapter from *Digital Photography: Expert Techniques*. This O'Reilly title brings you step-by-step procedures based on hard-nosed experience by and for genuine practitioners of photography. Finally, there's an extract from *Photoshop CS 1 on 1*. This, as the title suggests, provides one-on-one training for the *Photoshop* artist.

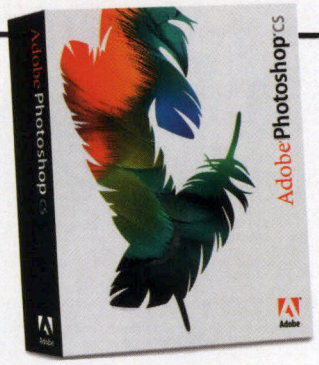
Photoshop guru Mark Monciardini completes this month's resource pack, with a large selection of videos from his *101 Totally Awesome Photo Tips in Photoshop CS* training DVD.

More info... See the Resources folder on your cover CD.









The Photoshop trial

Download the *Photoshop CS* 30-day trial from Adobe online...

Rather than taking up your cover CD with trial software, we want to bring you useful resources that will be helpful in your day-to-day *Photoshop* work. But, if you haven't got your hands on a copy of the software yet and want to complete this month's tutorials, fear not, you can download the 30-day trial version from the following URL: **[w] www.adobe.com/products/tryadobe/main.jsp.**

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COMPUTER arts projects

START YOUR OWN DESIGN BUSINESS

Essential advice for setting up your own design company, from those who've already done it...

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We reveal some of the best promotional material on the planet – get yourself noticed! Plus expert tutorial

THE IMPORTANCE OF BUSINESS CARDS
Don't get your business card designed on a high-street machine – make it stand out from the rest with this feature and expert tutorial

BRANDING UNCOVERED
Learn the secrets of successful branding with this in-depth feature. Then, create your own personalised identity with our expert tutorial

DESIGN FANTASTIC STATIONERY
It can make or break your business. We show you how to create some stunning stationery in *InDesign CS* using fifth colours and other special finishes

PRINTERS ARE YOUR FRIENDS
Learn how to find a reliable printer and familiarise yourself with all the techniques and jargon you'll need to ensure your artwork prints correctly

LOCATION, LOCATION, LOCATION
We take you on a whistle-stop tour of the world to discover the best places to set up a design business

DEALING WITH THE TAXMAN
Learn how to balance the books and make your business survive even when the clients aren't queuing up...

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JOOST KORNGOLD
RENASCENT

Renascent is the home of Joost Korngold, Dutch Freelance Graphic Designer. Joost is currently active in Motion Graphics and Visual Static Imagery for different media. Joost has worked for : Nike, L'Oreal Paris, Philips, Hewlett Packard, NFL Network, Crest, Sovereign Bank, Connexion by Boeing, Nicktoons, Bureau of Creative Associates, Atlas Copco, DesignTex, Philip Morris International, Cinemax.

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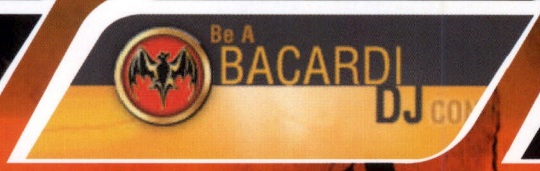

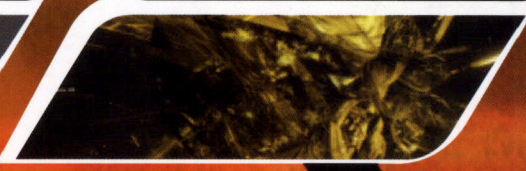

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friends of ED are proud to present
NEW MASTERS OF PHOTOSHOP
Volume 2

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ISBN: 1-59059-315-4. September 2004. 488 pages.
Softcover with CD-ROM. £37.50 €56.95

New Masters of Photoshop: Volume 2 is a showcase of the most innovative, inspiring, and imaginative digital art created in Photoshop today, featuring examples of photorealism, abstract art, graphic design, storytelling, fantasy art, and commercial illustration. All of the designers in this book are recognized, not only for their mastery and expertise in using Photoshop, but because they use it in interesting and unique ways to transfer their visions to print or screen.

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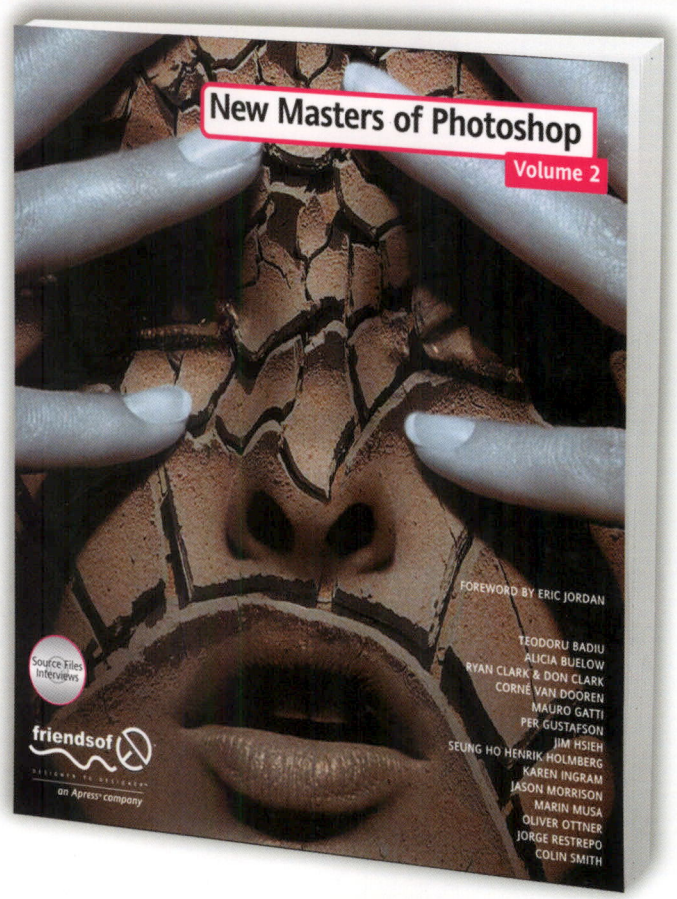
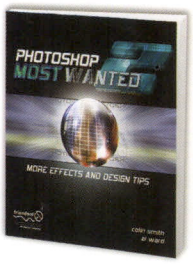
Find out about the featured designers, preview the book and download wallpapers at www.friendsofed.com/newmasters





Photoshop Most Wanted 2: More Effects and Design Tips

Colin Smith and Al Ward

"friends of ED excels at making this type of book, and beginners are likely to adore it ... a decent read that serves up some neat ideas and inspiration for a reasonable price." *Computer Arts*

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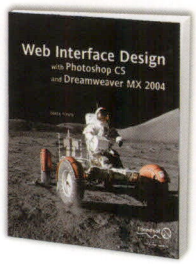

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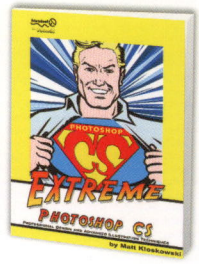

Extreme Photoshop CS: Professional Design and Advanced Illustration Techniques

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Matt Kloskowski

Packed with tutorials and interviews, advanced instruction and inspiration. In short: all you need to make the jump from Photoshop user to professional designer.

ISBN: 1-59059-428-2 • December 2004 • 346 pages
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friends of ED love pioneering. We also love how great ideas evolve. Based on our Designer to Designer™ ethos, our aim is to return the power of design and radical innovation to the people who do it best: you. Believe in what you see. Create great work. Whether you're pushing Photoshop or Flash every day professionally or just learning how to build your first website, we make books for you: Every Designer.

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